ORDER NO. VSD9509M264
D1

Service Manual

General Information
Operating Instructions
Disassembly Procedures
Maintenance Chart
Electrical Adjustment
Block Diagrams
Schematic Diagram & Circuit Board Diagrams
Exploded Views & Replacement Parts List

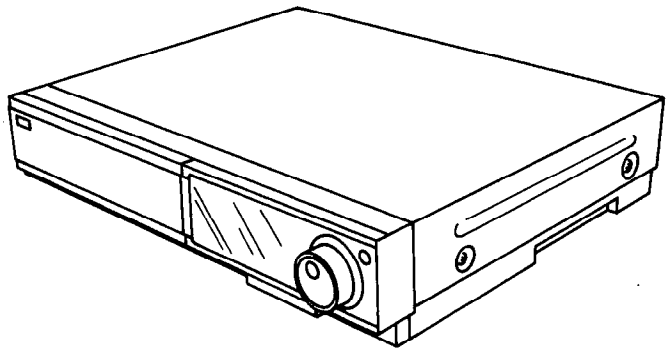
S-VHS / VHS Hi-Fi

Video Cassette Recorder

AG-1980P

K-MECHANISM

Please use this service manual together with the service manual for K-Mechanism (Order No. VSD9401M242)



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Panasonic

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advice non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to ser vice or repair the product or products dealt with in this service manual by anyone else could result in serious injury or death.

INTRODUCTION

This Service Manual contains the technical information which service personnel to understand and service the Panasonic SVHS Video Cassette Recorder model AG-1980P.
Please use this service manual together with the Service Manual for mechanical adjustment and maintenance procedures of K-Mechanism (Order No. VSD9401M242).

Specifications

AG-1980P

Information for Your Safety

Power Source:	120 V AC, 50–60 Hz
Power Consumption:	Approx. 33 watts

Video Recording System:	2 rotary heads, helical scanning system		
Video Heads:	4 heads		
Tape Speed:	SP; 33.3 mm/sec. SLP; 11.1 mm/sec.		
Tape Format:	S-VHS/VHS tape		
Record/Playback Time:	SP; 120 min. with NV-T120 SLP; 360 min. with NV-T120		
FF/REW Time:	Less than 3 min. with NV-T120		
VIDEO			
Television System:	EIA; Standard (525 lines, 60 fields) NTSC color signal		
Modulation System:	Luminance; FM azimuth recording Color signal; converted subcarrier phase shift recording		
Input Level:	VIDEO IN		
	Front (PHONO);	1.0 Vp-p,	75 ohm
	Rear (BNC);	1.0 Vp-p,	75 ohm
	S-VIDEO IN (4P DIN);	Y: 1.0 Vp-p,	75 ohm
		C: 0.286 Vp-p,	75 ohm
Output Level:	VIDEO OUT (BNC);	1.0 Vp-p,	75 ohm
	S-VIDEO OUT (4P DIN);	Y: 1.0 Vp-p,	75 ohm
		C: 0.286 Vp-p,	75 ohm
	RF Modulated;	VHF channel US 3 or 4,	75 ohm, terminated
AUDIO			
Input Level:	AUDIO IN (PHONO);	−10 dBV,	47 kohm
	MIC IN (M3×1);	−70 dBV	4.7 kohm
Output Level:	AUDIO OUT (PHONO);	−8 dBV,	1 kohm
	HEADPHONES;	−60 – −30 dBV,	8 ohm
Audio Track:	1 track (Normal), 2 channels (Hi-Fi sound)		
Video Horizontal Resolution:	Color; more than 240 lines (VHS/SP) more than 400 lines (S-VHS/SP)		
Signal-to-Noise Ratio:	Video; 44 dB (VHS/SP) 47 dB (S-VHS/SP)		
Dynamic Range:	Audio; 90 dB (Hi-Fi audio track)		
Audio Frequency Response:	50 Hz – 10 kHz (Normal) 20 Hz–20 kHz (Hi-Fi audio track)		
Operating Temperature:	5°C–40°C		
Operating Humidity:	35%–80%		
Weight:	14 5/16 lbs (6.5 kg)		
Dimensions:	16 15/16" (W) × 4 3/8" (H) × 14 15/16" (D) (430 × 110 × 380 mm)		

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohm meter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads connectors, control shafts,etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1M ohm and 5.2M ohm.
   When the exposed metal does not have a return path to the chassis, the reading must be ∞.

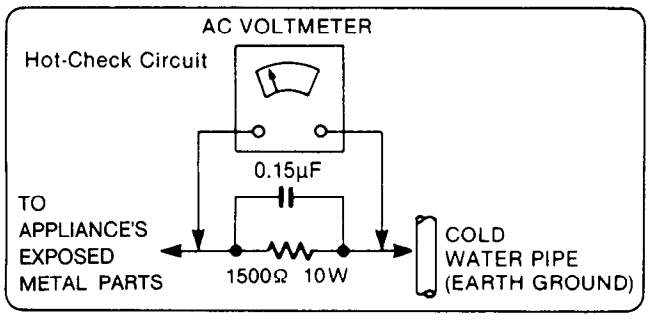


Figure 1

LEAKAGE CURRENT HOT CHECK (See Figure 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5k ohm, 10 watts resistor, in parallel with a 0.15uF capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

ELECTROSTATICALLY SENSITIVE(ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are calledElectrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground.
   Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.

2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.

3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.

4. Use only an anti-static solder removal device classified as "anti-static" can generate electrical charges sufficient to damage ES devices.

5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.

6. Do not remove a replacement ES device from its protective package untilimmediately before you are ready to install it. (Most replacementES devices are packaged with leads eletcrically shorted together by conductive foam, aluminum foil or comparable conductive material).

7. Immediately before removing the protective material from the leads of replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all otner asfety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device).

SECTION 1.
GENERAL INFORMATION

1-1. SERVICE INFORMATION

1-1-1. New GLDD Cylinder Unit Replacement

The AG-1980 has been introduced new cylinder unit.

《NEW GLDD CYLINDER》
The construction of New GLDD Cylinder has been designed simpler than current cylinder, and the general performance has been improved.

The feature of New GLDD Cylinder.
GLDD enables less working time to replace upper cylinder unit and cylinder unit due to the following reasons.

1) No Soldering
2) No Screws

Note: GLDD stands for following.
G: GLDD has been developed and introduced from VCRs using the G-Mechanism.
LDD: Liquid Direct Drive.

This cylinder unit replacement procedure as below.

1. Unscrew the screw (A).
2. Remove the Cylinder Angle.
3. Unscrew the screw (B) for fixing the Earth Plate.
4. Remove the Earth Plate.
5. Unscrew 3 screws (C) of the New GLDD Cylinder Unit from bottom of Mechanism chassis.
6. Carefully lift the New GLDD Cylinder Unit.

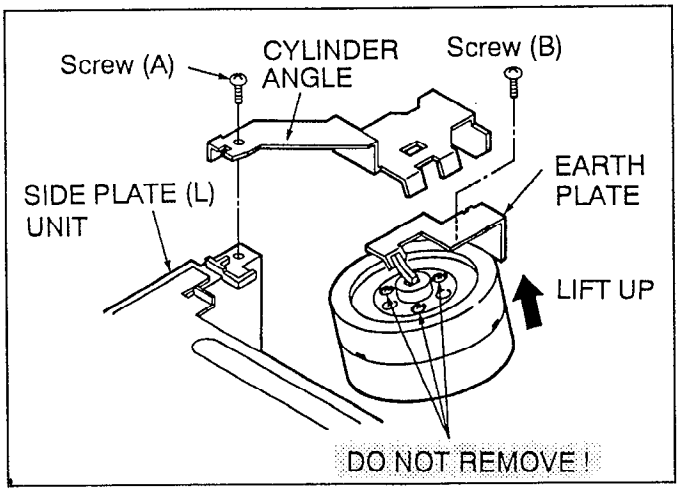


Fig. S1-1

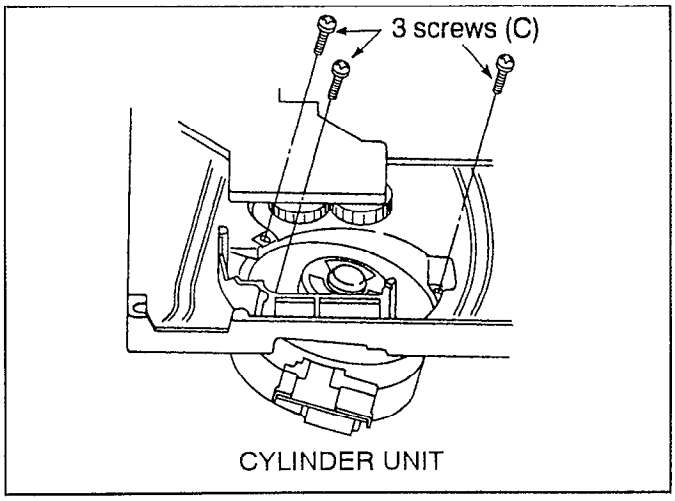


Fig. S1-2

1-1-2. Upper Cylinder Replacement

<Disassembly>
1. Unscrew the screw (A).
2. Remove the Cylinder Angle.
3. Unscrew the screw (B) for fixing the Earth Plate.
4. Remove the Earth Plate.
5. Carefully lift the Upper Cylinder Unit.

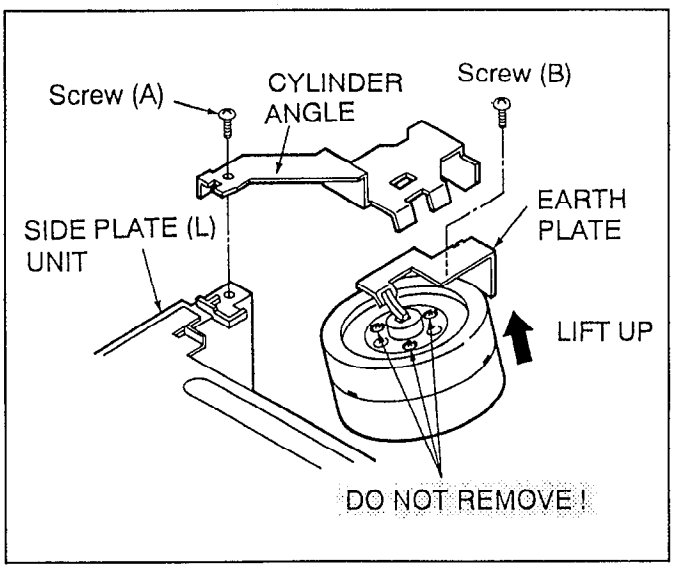


Fig. S2

Note: Do not remove 3 screws on the Upper Cylinder and the Rotor Magnet which fixed by 3 screws on the Upper Cylinder.

If it is removed, refer to following method.
1. Install the Rotor Magnet so that the hole (C) on the Rotor Magnet fits to the small projection (D) on the bottom of the Upper Cylinder.
2. Tighten 3 screws on the top of the Upper Cylinder.

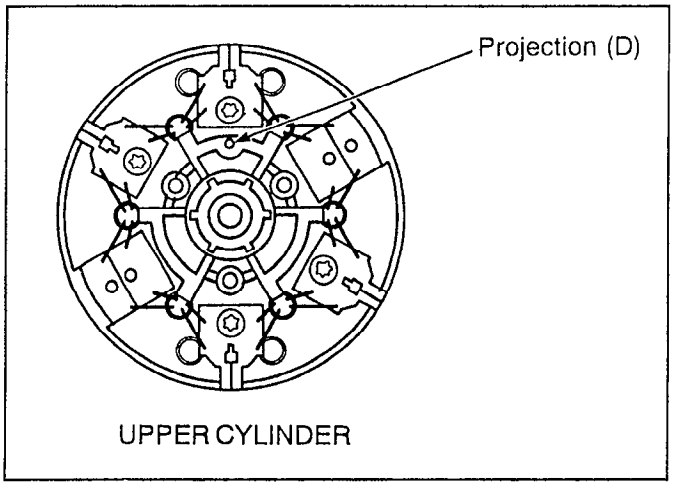


Fig. S3-1

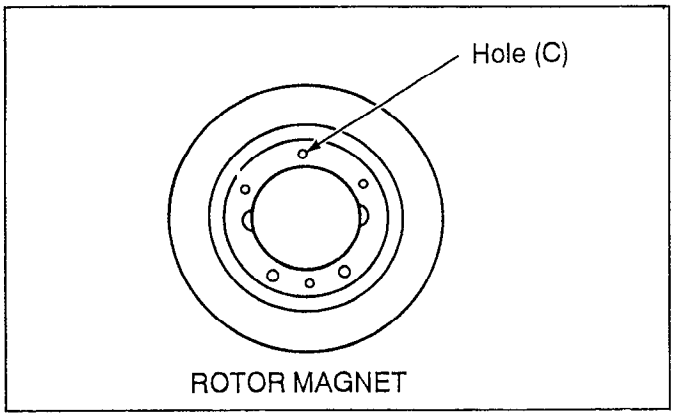


Fig. S3-2

<Assembly>
When reassembling, perform the steps in the reverse order of the disassembly method.

1-2. Cassette Tape Removal

1) Hand Operation

1. Take out the mechanism from the unit.
2. Turn the Worm Gear manually, moving the loading post to the unloading position.
3. Turn the capstan Rotor Unit clockwise to take up the tape.
4. Turn the Worm Gear again to eject the cassette.

2) Battery Operation

1. Connect the battery (Manganese type, (AA) 3 pcs. / +4.5V) to P1503 on the Mechanism Connection C.B.A..
2. After moving the Loading Post to unloaded position, disconnect the battery to stop the Loading Motor.
3. Turn the Capstan to clockwise to take up the tape.
4. Reconnect the battery to P1503 and eject the cassette.

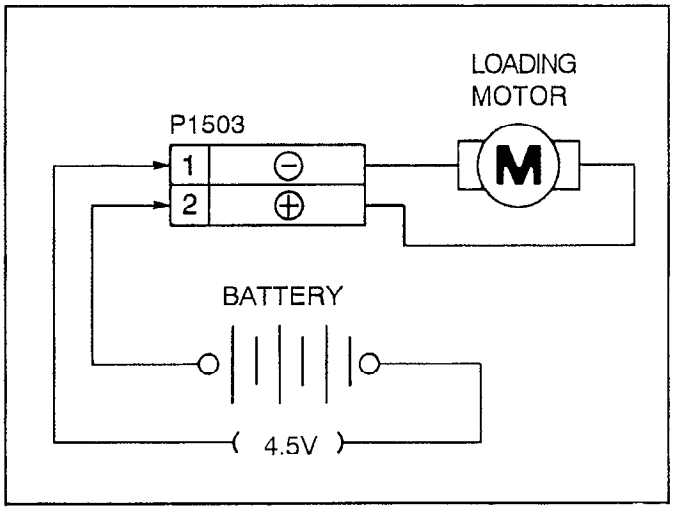


Fig. S4

If the cassette tape can not be removed by the above method, remove it by the following method.

1) Remove the Top Panel. (see disassembly method).
2) remove the Front Panel Unit.
3) Lift up the Pinch Arm after removing a spring.
4) Push the P5 Arm and remove the tape from tape transportation (P3, P2, P5 and P1 Posts).
5) Turn the Capstan Rotor to take up the tape.
6) Remove a screw from the Side Plate (R) Unit to disconnect the Rack Gear from the Carriage Connection Gear.
7) Take out the cassette tape from the Cassette Compartment.

1-3. Channel Memory IC Initialization (vol IC?)

When replacing the channel memory IC, its IC should be initialized.

Meaning of "Initialization" is to erase the SKIP CH, in other words the number of channel position is the same as displayed channel.

1) Press the CH UP or DOWN button so that channel display indicates CH2.
2) Connect the jumper wire twice to P6501 Pin 10 and Pin 12.
3) Channel indication light off then indicated CH2.

Note:

It should be performed before tuning.
Do not turn off the power source during initialization or 1 second after initialized.

1-2. SELF TEST INDICATION DISPLAY

This VCR has a self-diagnosis and display function. If the VCR detects trouble during installation or during use, one of the following fault indication code will automatically appear in the VCR display. Fault indication codes are displayed in the form of single English letter following by two number, as example "H01".

Note:
1. The indication "U" is displayed on the FIP while power remains on.
2. Otherwise, the indication "H" or "F" is displayed on the FIP, and the power is automatically turned off.
When the power id turned on again, the fault indication code will disappear and the unit will return to normal display mode.
3. This fault indication code will be stored in the Timer microprocessor even with the AC plug disconnected. The two digit number portion if the stored fault indication code can be redisplayed in the FIP's "second" display position (the last 2 digits on the light) by placing the unit is service mode number 2 when turning on the service information display as for example "01" or "02" etc.
If a second error occurs, only the most recent error will be displayed and stored.
4. To erase the stored fault indication code data, press the FF, REW and EJECT buttons simultaneously for 5 seconds.

INDICATION	CAUSE	REMEDY/CHECK
U10	Detect condensation (DEW) when it is used in very humid condition.	Wait until the "d" display goes off. (DEW timer: Condensation disappear + 120 min.)
U11	Head clogging during Playback mode.	Head Cleaning.
H01	After cylinder lock is detect, the cylinder does not start rotating again even after tape unloading.	Check the cylinder motor drive circuit.
H02	Cassette tape is not wound up during tape unloading, except Eject mode.	Check the capstan motor drive circuit.
F03	Mechanism locks during mode transition, except Eject mode.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment. 3. Check the mode SW.
F04	Mechanism locks during tape unloading.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment.
F05	Cassette tape is not wound up during tape unloading in Eject mode.	1. Check the capstan motor drive circuit. 2. Check the supply/take up reel pulse.
F06	Mechanism locks after tape unloading in Eject mode.	1. Check the loading motor drive circuit. 2. Check the mechanism phase alignment for cassette holder unit.
F09	No serial clock transmission between IC6001 and IC6503.	Check the serial clock circuit.

Fig. S5 Self-Test Indication Display

1-3. SERVICE INFORMATION DISPLAY

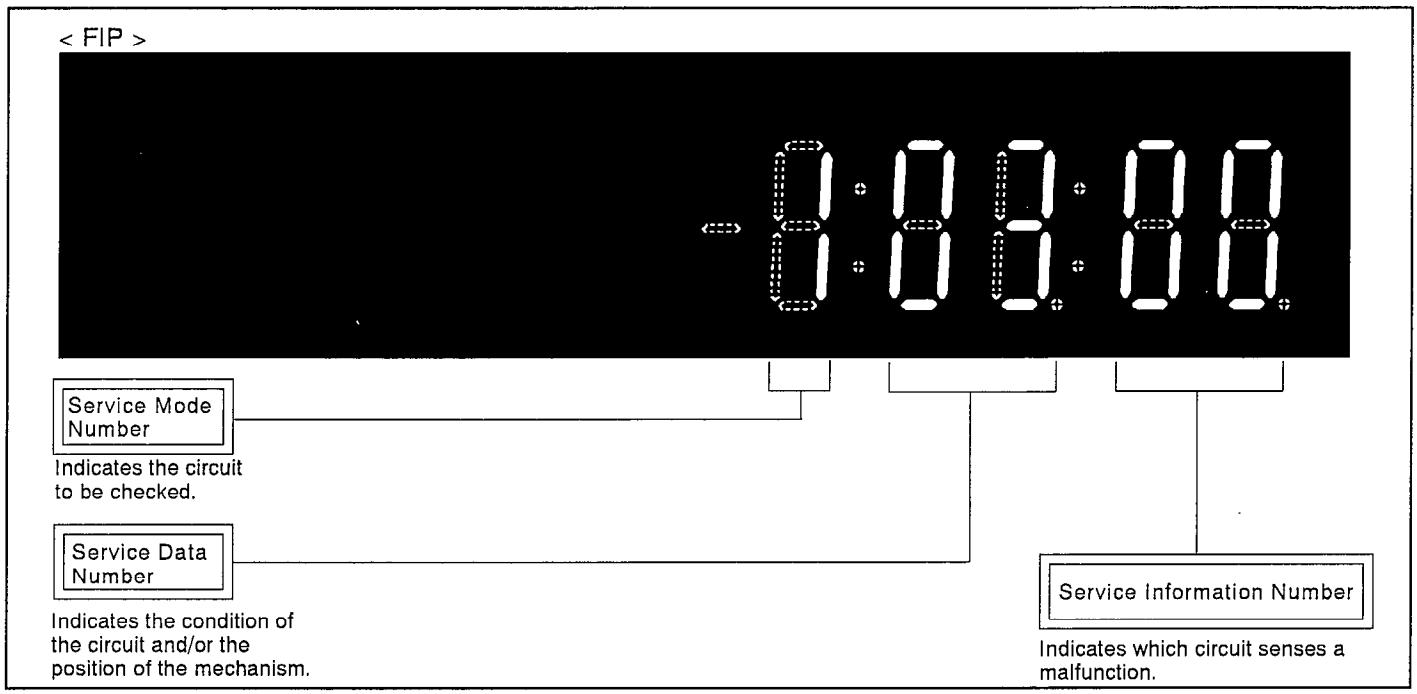

< FIP >
Service Mode Number
Indicates the circuit to be checked.
Service Data Number
Indicates the condition of the circuit and/or the position of the mechanism.
Service Information Number
Indicates which circuit senses a malfunction.

Fig. S6 Service Information Display

1-3-1. Purpose of Service Information Display

This information aids trouble shooting by indicating the source of the malfunction. The service mode number and service data number are used by the technician during repair while the service information can be used by the consumer to diagnosis malfunctions allowing the technician to provide a more accurate repair cost estimate and reduce repair time.

Service Information No.	Malfunction
00	Normal (No problem)
01	Cylinder stop
02	Reel stop
03	Stop at position other than **04** or **06**. (Faulty loading motor)
04	Stop during loading
05	Faulty capstan rotation
06	Stop during cassette IN/EJECT operation
09	Main serial communication error between system control and timer IC

Fig. S7 Detail Service Information Number

1-3-2. Turning on Service Information Display

There are two ways to turn on the Service Information Display.
1) Press the FF, REW and EJECT buttons simultaneously.
2) Connect a jumper wire between TL6010 and TL6011 on the Main C.B.A. and press the FF, REW and EJECT buttons simultaneously.

In the Service Information Display, there are five digits divided into 3 functions. The first digit indicates which of the service modes.
(Mode 0 and 8 are not used)

The second and third digits are service data which indicates the condition of the circuit or mechanism being checked.

The forth digit is the service information display. It is to be used by the consumer to help determine the source of the malfunction. The service information display operate independently of the service mode and stores the fault indication in memory for as long as AC Power is supplied.

1-3-3. Use of Service Modes

MODE 1
Check that the sensor LED, supply & take-up sensor circuits, check the each sensor by blocking the light form sensor LED to either or both sensors.

MODE 2
Checks the mode switch circuit while indicating mechanism position.

MODE 3
Checks that mode switch circuit operations have been completed.

MODE 4
Checks the operation circuit. Indicates if system control microprocessor (IC6001) received the operating commands from the mode buttons of the front panel and/or remote controller.

MODE 5
Checks the capstan motor circuit. Indicates if the IC6001 has received the command to rotate the capstan motor.

MODE 6
Checks the cylinder motor circuit. Indicates if the IC6001 has received the command to rotate the cylinder motor.

MODE 7
Checks the loading/unloading operation. The loading motor rotates for loading operation while the "PLAY" button is pressing. The loading motor rotates for unloading operation while the "STOP" button is pressing. This mode reset by press the "POWER" button.

Service Data No.	Mode Button	Service Data No.	Mode Button
3n	POWER	**03**	FF
08	REC	**02**	REW
34	CH UP	**06**	PAUSE/STILL
35	CH DOWN	**49**	INDEX -
0U	PLAY	**4U**	INDEX +
00	STOP	**—0**	INPUT SELECT

Fig. S8 Service Data Display for Service MODE 4

1-3-4. Service Information Number

The service information number display is independent of the service mode display. The service information number will be stored as long as AC Power is supplied. If a second error occurs, only the most recent error will be displayed.

Service mode Number	Note for checking Service Data Numbers	Service Data Numbers	Indication	Remarks
1	———	00	No light detected at either sensor.	Tape not required
		01	Tape Beginning. Light to Supply Photo Sensor is blocked.	
		02	Tape End. Light to Take-up Photo Sensor is blocked.	
		03	Light detected at both sensors.	
2	———	00	EJECT	Tape Required *1: STOP3; The Pinch Roller is on the capstan motor shaft. *2: STOP; The Pinch Roller is off the capstan motor shaft. Refer to Fig. S10 to check mechanism position and timing.
		01	Cassette-down	
		02	REV	
		03	Loading/Unloading	
		04	PLAY/REC, STILL/PAUSE, CUE, FWD SLOW, STOP3*1	
		05	STOP *2	
		06	FF/REW	
		07	Intermediate position.	
3	Disregard service data displayed until mechanism operation is completed. Then the display should indicate "00".	00	Any display other than "00" indicates a fault in the mode switch circuit or system.	Tape Required
4	Display only when the operating button is pressed.	Refer to Fig. S9		Tape not required
5	Left digit only, disregard Right digit display.	Left Digit 01 Right Digit	8, 9, u, A, -, n, L, and no display indicate that the Capstan motor "PLAY" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.
	Right digit only, disregard Left digit display.	Left Digit 07 Right Digit	1, 2, 3, 4, 5, 6, 7, indicate that the Capstan motor "CUE, FF, Forward slow" commands received by IC6001.	
	Right digit only, disregard Left digit display.	Left Digit 8 Right Digit	8, 9, u, A, -, n, L, and no display indicate that the Capstan motor "Reverse, Rew, Reverse Slow" commands received by IC6001.	
6	Left digit only, disregard Right digit display.	Left Digit 10 Right Digit	1, 3, 5, 7, 9, A, n and no display indicate that the cylinder motor "ON" command received by IC6001.	Tape required. If a symbol other than those listed is displayed, a malfunction in that circuit is indicated.

Fig. S9 Detail Data Service Numbers

1-3-5. Timing Chart from Mode SW to System control IC6001

System control IC6001 senses the mechanism position through the Mode SW.
Fig. S17 shows the timing for Service Mode Number 2.

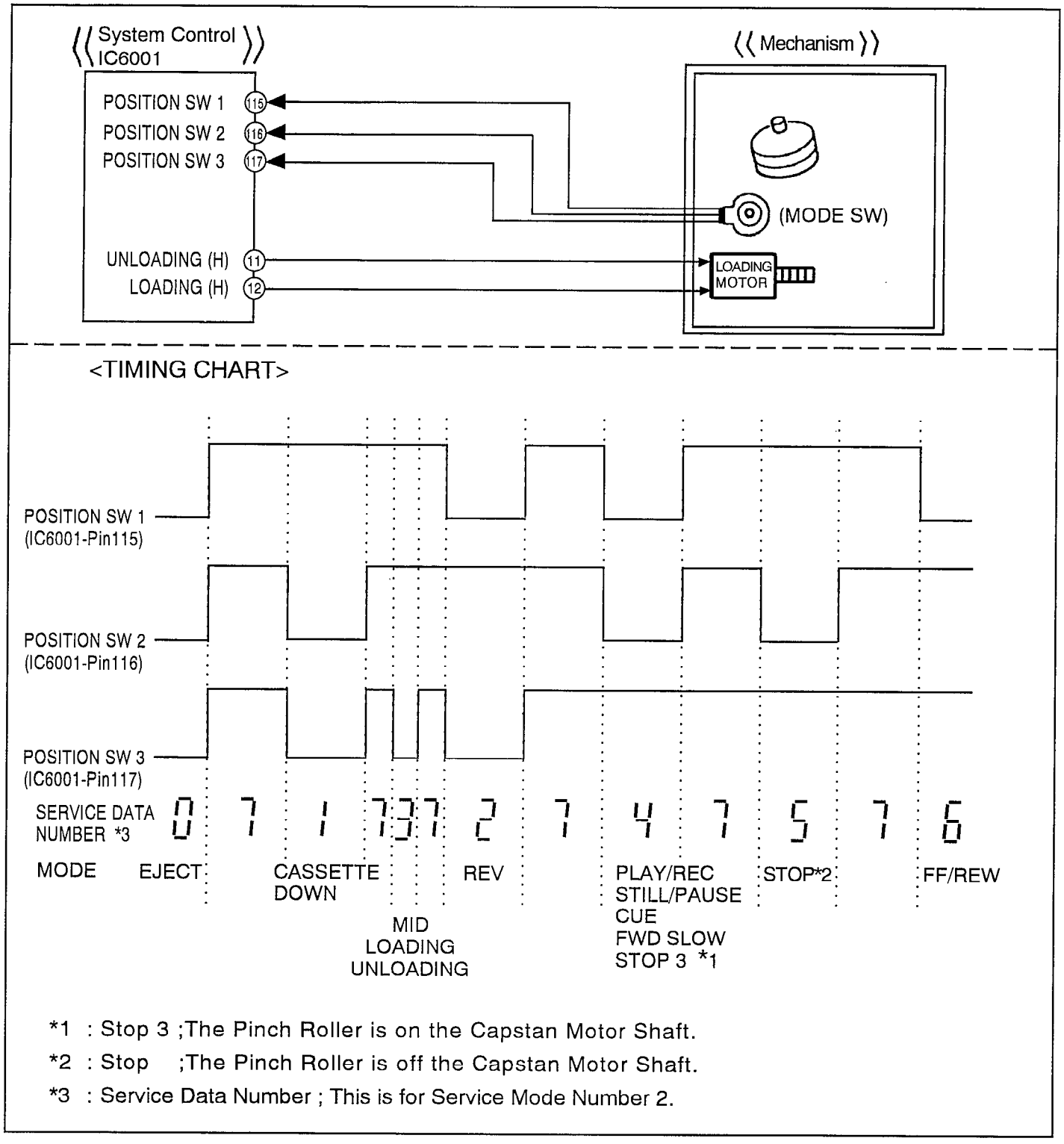


Fig. S10 Timing Chart of Mode SW

Precautions

Please read these precautions before you operate this VCR.

Cassette Compartment Door

When first unpacking the VCR, the cassette compartment door may be open partially. This is due to a safety device designed to protect the VCR from vibration during shipment; it is not a malfunction. After the AC Power Cord is connected to an AC outlet, the door returns to its original position.

Avoid Sudden Temperature Changes

If the VCR is suddenly moved from a cold to a warm place, moisture may form on the tape and inside the VCR. In such a case the Dew Indicator "⁚" will flash on and off and the VCR will not operate.

Humidity and Dust

Avoid places with high humidity or a lot of dust. These can damage internal parts.

Avoid Covering Ventilation Holes

The ventilation holes prevent abnormal increased temperature in the VCR. Do not block or cover these holes. Especially avoid covering the holes with soft materials such as cloth or paper.

Keep away from High Temperature

Keep the VCR away from extreme direct heat such as direct sunlight, radiators, or in closed automobiles.

Keep Magnets away

Never bring a magnet or magnetized object near the VCR because it will adversely affect the performance of the VCR.

No Fingers or Other Objects Inside

Touching internal parts of the VCR is dangerous, and may cause serious VCR damage. Do not attempt to disassemble the VCR. There are no user-serviceable parts inside.

Keep Away from Water

Keep the VCR away from flower vases, tubs, sinks, etc. CAUTION: If liquids are spilled into the VCR, serious damage may occur. If you spill any liquid into the VCR, immediately disconnect the AC Power Cord and consult qualified service personnel.

Lightning

To avoid damage by lightning, disconnect the antenna plug from the VCR.

Keep VCR Clean

Wipe the VCR with a clean, dry cloth. Never use cleaning fluid, or other chemicals. Do not use compressed air to remove dust.

Stacking

Place the VCR in a horizontal position and do not place anything heavy on it.

Video Head Clogging

The video heads place picture signals on the tape during recording, and read picture signals from the tape during playback. Therefore they are of critical importance for the picture quality. To ensure that they can always provide optimum picture quality, this VCR is equipped with an Auto Head Cleaning Feature that removes tape particles and dust from the video heads. However, if the VCR is used over extremely long periods of time, these heads may still become dirty and clogged. In such a case, the signals can no longer be recorded correctly, and the playback picture will be distorted accordingly. This is the case, for example, if during playback sound is reproduced normally, but no picture is seen, or the picture is greatly distorted. When such symptoms occur consult your dealer for further advice.

If Dew Condensation Forms in the VCR

Condensation may form in the VCR if:

- The VCR is in a room where the heater has just been turned on.
- The VCR is in a room with steam or high humidity.
- The VCR is brought from cold surroundings into a well-heated room.
- The VCR is suddenly brought from cool surroundings, such as an air-conditioned room or car, to a hot and humid place.

When dew forms in the VCR:

The Dew Indicator "⁚" on the VCR Display will flash on and off all the function buttons are made non-operational to protect the tape and the video heads. When the Dew Indicator flashes, wait until this indicator disappears.

- If dew condensation forms inside the VCR while the power is off, it will turn on automatically and the Dew Indicator will flash on and off. As soon as the dew condensation has been dissipated, the VCR will turn itself ON agin.

Connections

The following connections are required to operate the VCR for,recording and playback through a TV set.

Connection to TV without S-Video Input

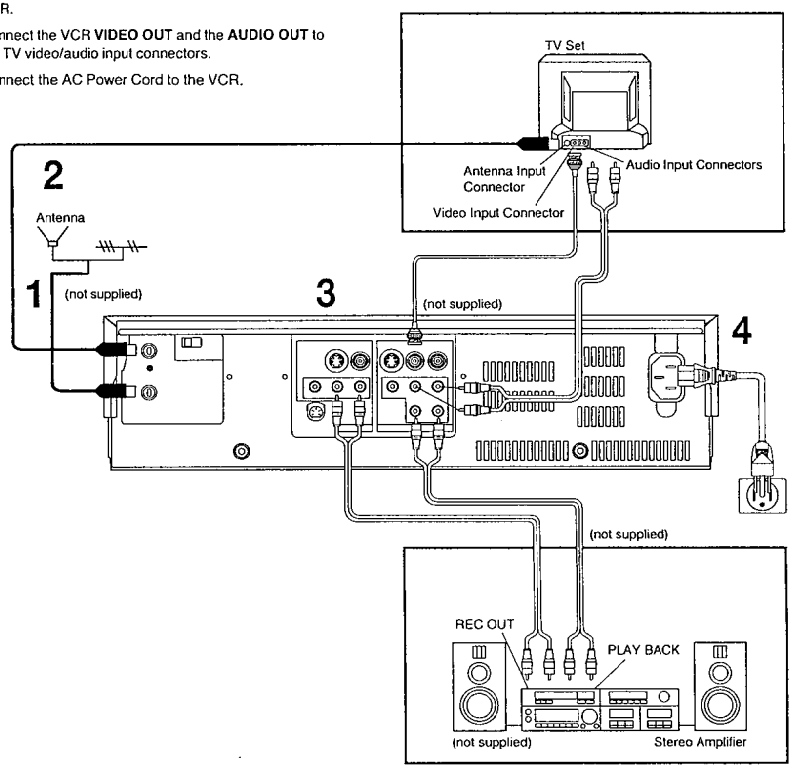
1 Unplug VHF/UHF antenna plug from the TV antenna input connector and plug it into the VCR **VHF/UHF IN.**

2 Connect the VCR **VHF/UHF OUT** to the TV antenna input connector with the Coaxial Cable supplied with the VCR.

3 Connect the VCR **VIDEO OUT** and the **AUDIO OUT** to the TV video/audio input connectors.

4 Connect the AC Power Cord to the VCR.

•Connection to a TV Set without an S-Video Input



•Connection to a Stereo Amplifier

Connection to TV with a S-Video Input

1 Execute steps 1 and 2 on page 5.

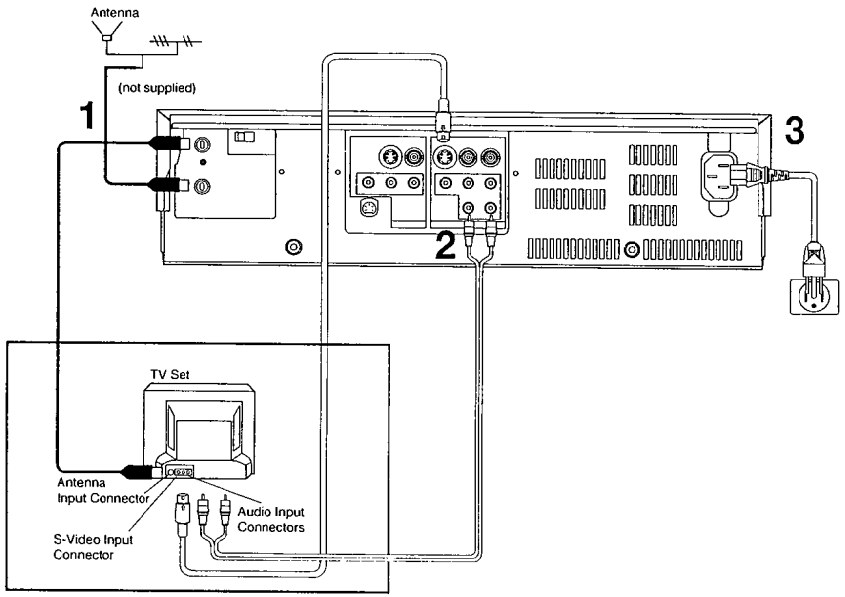
2 Connect the VCR **S-VIDEO OUT** and the **AUDIO OUT** to the TV S-Video and audio input connectors.

3 Connect the AC Power Cord to the VCR and live AC outlet.

The S-VHS format used in this VCR enables you to obtain high resolution and high picture quality when high performance S-VHS videc cassette tapes are used.

The conventional VCR video connectors output and input signals which are composed of the luminance signal (Y) and color signal (C) which are then recorded on the video tape. The new S (Separate)-Video Connector allows separate transmission of signals in order to obtain clearer pictures.

The connection with the S-Video Cable can also be used for playback of a tape that was recorded in the conventional VHS system. The "S" in the "S-Video Connector" stands for "SEPARATED Y/C", not for "S-VHS".



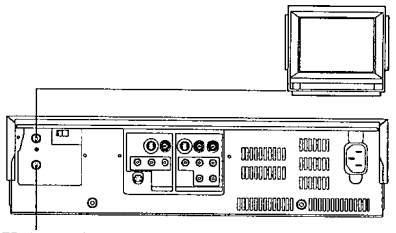
•Connection to a TV Set with S-Video Jack

Cable Connection

Cable-VCR-TV
(For CATV/PAY Channels Recording/Playback)

The VCR has an extended range, and can tune the Low-Band, Mid-Band, Super-Band, Hyper-Band, Ultra-Band and Special cable channels. (Channels A–W, AA–FFF, A-5–A-1, GGG–WWW+12, 100 – 125, 5A). Also, the VCR can tune to any of the 56 UHF channels (14–69). Refer to **Storing TV Channels on your VCR** on page 10.

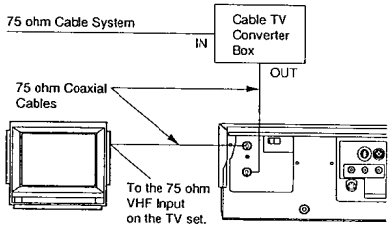
BASIC Hook-Up



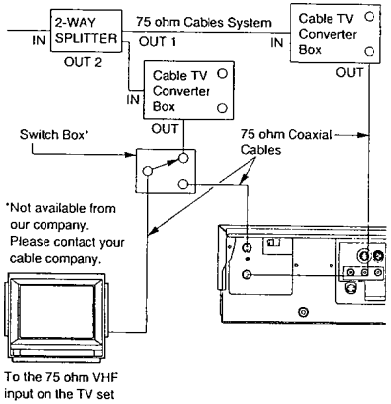
75 ohm coaxial cable
Channels 2–13 and 5A, A-5–A-1, A–W, AA–FFF, GGG–WWW+12, 100 – 125

However, if you subscribe to a special channel which is scrambled—you will probably have a descrambler box for proper reception. The VCR by itself cannot properly receive a scrambled program since it does not contain a descrambler. In order for the VCR to properly receive a scrambled program, your existing descrambler must be used. There are two commonly used methods of connection in this case.

Typical Cable System Hook Ups with Cable Converter/Descrambler Boxes



The above cable hook-up allows VCR-TV functions except for viewing one channel while recording another.

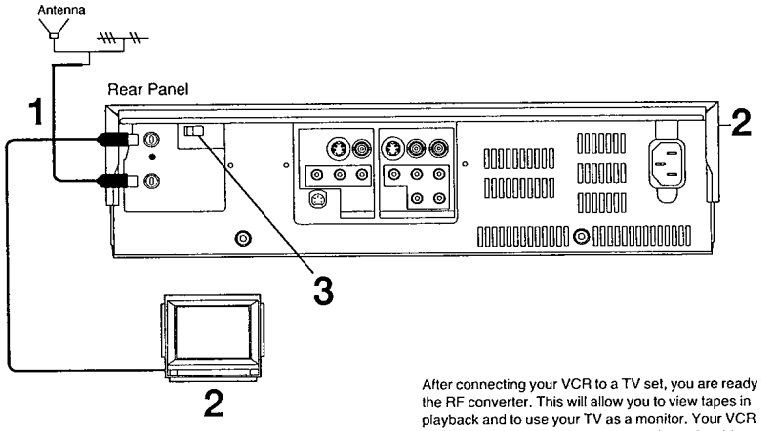


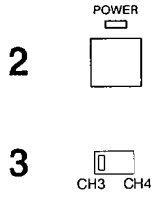
input on the TV set

The above cable hook-up allows VCR functions, including viewing one channel while recording another, but it requires two cable TV Converter Boxes, one Switch Box and one 2-Way Splitter.

Since the VCR has an extended range of tuning, tuning-programming of non-scrambled Mid-Band and Super-Band TV programs is possible. When a cable converter or descrambler box is connected to the VCR, all timer-controlled recording functions will continue to operate with the exception of changing channels automatically. CATV Channel selection will have to be performed with the cable converter. Timer-controlled recording from CATV Channels is therefore limited to one channel at any given time.

Tuning the TV channels to your VCR





After connecting your VCR to a TV set, you are ready to set the RF converter. This will allow you to view tapes in playback and to use your TV as a monitor. Your VCR contains an RF converter which translates the video and audio signals in the VCR to a standard broadcast signal that your TV can receive.
The RF converter can transmit this signal on channel 3 or 4. To prevent any interference it is advisable that you select the channel that is not normally broadcast in your area.

Tuning procedure

1 Refer to pages 5 and 6, and confirm that the VCR and TV have been connected correctly.

2 Turn on the VCR and TV.

3 Set RF Converter Channel Selector (on the rear panel) to "CH3" or "CH4"; whichever is not normally broadcast or the least viewed. This is to select a channel for video playback.

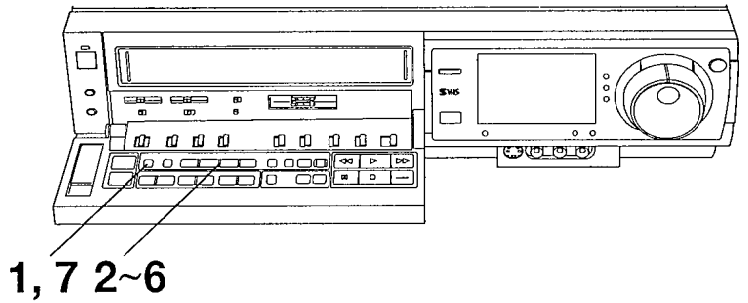
Channel Reception Check

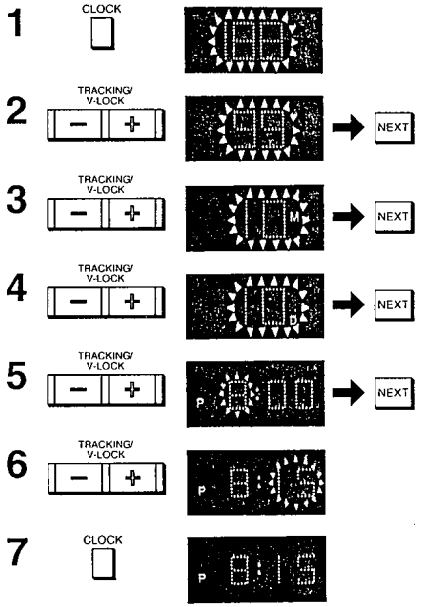
1 Set channel 3 or 4 on your TV (selected in step 3) in order to check a proper broadcast reception.

2 Press **VCR/TV** (on the front panel) to "VCR" to select the "VCR" operation mode.
•The "VCR" indicator appears on the VCR Display.

3 Select channels on the VCR that you would normally receive clearly in your area to check proper reception.

Setting the Clock of the VCR





The built-in digital clock employs the 12-hour system.

Preparation

Turn the VCR on.

Setting procedure

1 Press **CLOCK** to start Clock Setting.

2 Press **TRACKING/V-LOCK** "+" or "–" to set the YEAR, then press **NEXT**.

3 Press **TRACKING/V-LOCK** "+" or "–" to set the MONTH, then press **NEXT**.

4 Press **TRACKING/V-LOCK** "+" or "–" to set the DAY, then press **NEXT**.

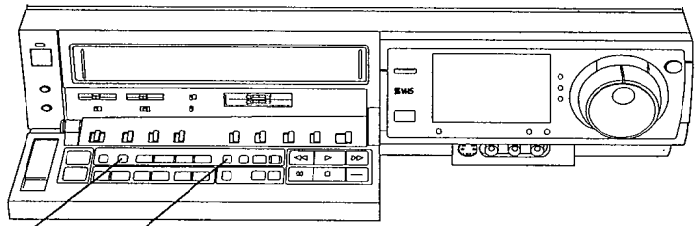
5 Press **TRACKING/V-LOCK** "+" or "–" to set the HOUR, then press **NEXT**.

6 Press **TRACKING/V-LOCK** "+" or "–" to set the MINUTE.

7 Press **CLOCK** to finish the setting.

Note:
In case of a power failure, the back-up system retains the present time memory for about 60 minutes.

Storing TV Channels on your VCR



1 PRESET/FINE/NORMAL

2 ANT SELECT

TV mode

CATV NORMAL mode

CATV HRC mode

CATV IRC mode

3 PRESET/FINE/NORMAL

Introduction

The VCR is fitted with its own tuner (just like a normal TV set) and can be preset to receive up to 181 TV broadcast stations.

Preparations

- Turn the TV on.
- Select Channel 3 or 4 on the TV for video playback.
- Set the **VCR/TV** to "VCR".

Direct Tuning

Your VCR is preset at factory. This means that all channels can be received at the program positions shown in the chart on the next page. This is achieved by selecting the desired Tuning mode.

- Blanking unwanted channels so that they will be skipped during the channel selection will allow you to find your desired channel quickly. Refer to the next page how to blank program positions.

Selecting the Tuning Mode

This VCR can select from among 4 tuning moces: TV, CATV, CATV H, CATV I.

1 Press **PRESET/FINE/NORMAL**.

2 The tuning mode can be changed by pressing **ANT SELECT**.

3 Press **PRESET/FINE/NORMAL** twice to select the VCR normal operation mode.

Fine Tuning Procedure

1 Press **PRESET/FINE/NORMAL** twice.

2 Press **TRACKING/V-LOCK** "+" or "−" to correct tuning.
- "A" indicator does not appear.
- To return the tuning to its former state, press **ANT SELECT**.

3 Press **PRESET/FINE/NORMAL**.

Blanking of unoccupied program positions

1 Press **PRESET/FINE/NORMAL**.

2 Press ∨ or ∧ (channel button) to select the program position that is to be skipped.

3 Press **ADD/DELETE**. ("—" appears on the Program Position Display.)
- Repeat steps 2 and 3 for all program positions which are not occupied by a TV station. Afterwards, these program positions can no longer be called up.
- To cancel the blanked program position, select the corresponding program position on VCR and then press **ADD/DELETE**.

4 Press **PRESET/FINE/NORMAL** twice.

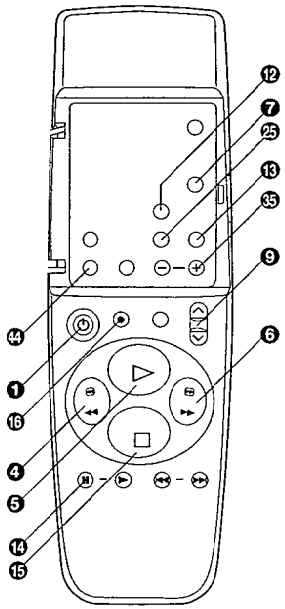
CHANNEL CHART

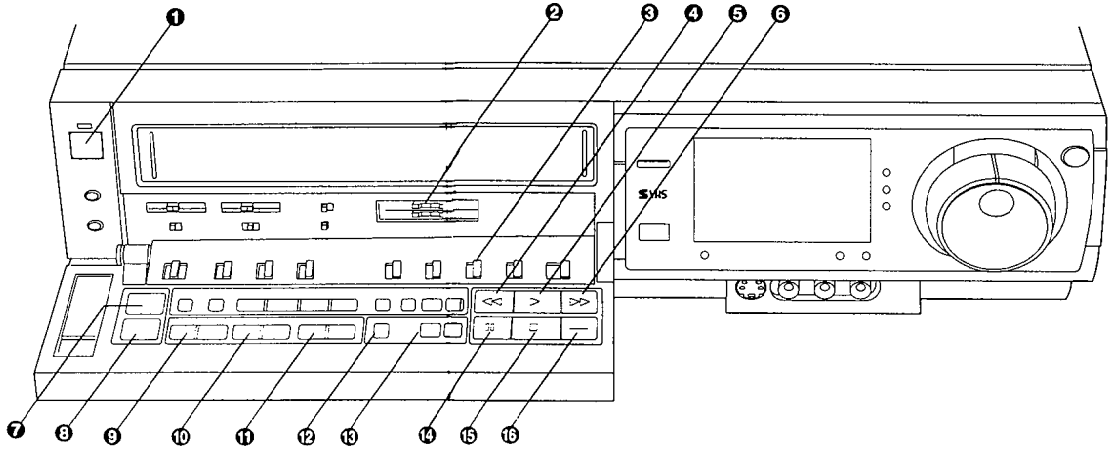
- TV mode

CHANNEL DESIGNATIONS	CHANNEL RECEIVED OFF TEH AIR	CHANNEL SELECTION & INDICATION ON VTR
VHF	2–13	2–13
UHF	14–69	14–69

- CATV modes (NOR, HRC, IRC)

CHANNEL DESIGNATIONS	CATV CHANNEL RECEIVED FROM CABLE	CHANNEL SELECTION & INDICATION ON VTR
BROADCAST VHF	2–13	2–13
CATV LOW BAND	A-5–A-1	95–99
CATV MID/ SUPER BANDS	A–W	14–36
CATV HYPER BAND	AA–FFF	37–65
ULTRA BAND	GGG-WWW WWW+1–WWW+12	66–94
	100–125	100–125
SPECIAL CATV CHANNEL	5A (HRC, IRC only)	1 (HRC, IRC only)





Basic Controls

❶ POWER Button with Indicator
Turns the VCR on and off.
- **Auto power on**

Inserting a video cassette automatically turns the VCR on.

❷ Hi-Fi REC LEVEL Control
Adjusts the Hi-Fi recording level so that the peak reaches about +4 dB on the Audio Level Meter.

❸ S-VHS Selector
Selects the correct tape recording mode.
ON: S-VHS cassettes are recorded in the S-VHS System.
- The S-VHS indicator is lit.

OFF: S-VHS cassettes are recorded in the VHS system.
- The S-VHS indicator is not lit.
- VHS cassettes are recorded automatically in the VHS system irrespective of the switch position.
- For playback, it is not necessary to operate this switch.
- S-VHS recording cannot be played back on a conventional VHS VCR.

❹ REW Button
Use to rewind the tape rapidly. "◁◁" appears on the VCR Display.
When this button is held pressed during Normal playback or Rewind operation, the picture is played back at higher speed in reverse direction.
(Review Playback)
If you tap this button during Normal Playback, Review Playback remains activated. Press PLAY to resume Normal Playback.

❺ PLAY Button
Starts normal playback. "▷" is lit on the VCR Display.

❻ FF Button
Used to advance the tape rapidly. "▷▷" appears on the VCR Display.
When this button is held pressed during Normal playback or Fast Forward operation, the picture is played back at higher speed in forward direction.
(Cue Playback)
If you tap this button during Normal Playback, Cue Playback remains activated. Press PLAY to resume Normal Playback.

❼ VCR/TV Button
Selects "VCR" or "TV" operation mode.

❽ EJECT Button
Eject the cassette.
- If this button is pressed to eject a cassette loaded in the VCR when the power is turned off, the VCR is turned on for automatic ejection and, afterwards, turned off.

❾ Channel ∨ and ∧ Buttons
Selects the program positions (channels), the VCR can memorize TV stations in 99 program positions.

❿ OTR ON + and – Buttons
Used to set the OTR (One-touch Timer Recording) starting time.

⓫ OTR OFF + and – Buttons
Used to set the OTR ending time.

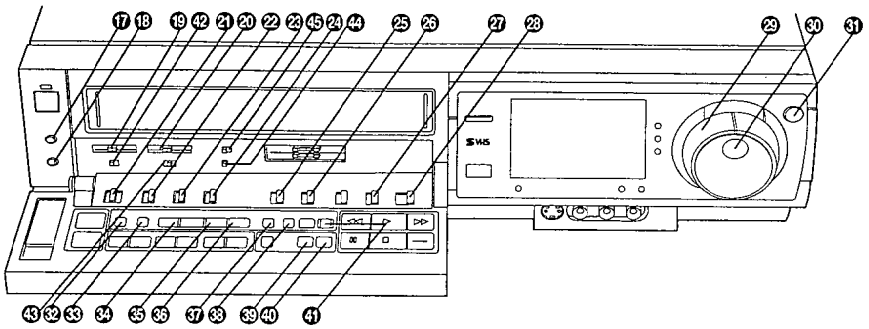
⓬ AUDIO OUT Button
Selects the audio track. Each time you press this button, the audio track changes as follows:
Hi-Fi stereo (L and R)→Hi-Fi mono left (L)→Hi-Fi mono right (R)→Normal (Hi-Fi off)→Hi-Fi Stereo...

⓭ RECORDING SP/SLP Button
Selects the recording tape speed.
"SP" for normal tape speed gives the best picture quality.
"SLP" for one-third tape speed gives the longest (3 times) normal recording time.
- The VCR selects the correct tape speed during playback.

⓮ PAUSE/STILL Button
Used to interrupt recording temporarily (Recording Pause).
Pressing this button again resumes recording.
- Also used to view a still picture during playback "▯▯" appears on the VCR Display. Pressing this button again resumes playback.
- The VCR automatically switches to the Stop mode to protect the tape and the video heads if Recording Pause or Still Playback continues for more than 5 minutes.

⓯ STOP Button
Stops Recording or Playback.

⓰ REC Button
Starts Recording. ("▷ REC" appears on the VCR Display.)



Additional Controls

⑰ **MIC Jack**
For connecting a microphone. If a microphone is connected, other audio inputs are automatically switched off.

⑱ **PHONES Jack**
For connecting stereo headphones.

⑲ **PHONES LEVEL Control**
Adjusts the volume of connected stereo headphones.

⑳ **PICTURE Control**
Adjusts the picture sharpness during playback.

㉑ **DETAIL/NOR/EDIT Switch**
DETAIL/NOR: For controlling the picture image.
EDIT: No effect for controlling the picture image.

㉒ **TBC Switch (Time Base Corrector)**
When playing back a tape which is loose or damaged, or when the tape movement is unstable during recording or playback, the playback picture may shake from side to side and be distorted. You can improve the picture quality by setting TBC Switch to "ON". Normally, this switch must be set to "OFF".
- During playback of some pre-recorded tapes, the playback picture may shake vertically. If this occurs, set TBC Switch to "OFF".
- The TBC function works only during normal playback.

㉓ **SEARCH SOUND Selector**
OFF: The sound is played back only during normal playback.
ON: The sound can also be heard during Cue playback and Review playback.
- No sound may be heard during playback of SLP recordings if VCR and TV have been connected each other with only coaxial cable.

㉔ **Hi-Fi/NORMAL MIX Switch**
Audio signal is recorded on both the Hi-Fi and normal audio tracks.
OFF: Normal position for Hi-Fi audio playback.
ON: Both audio tracks are played back simultaneously. (For playback of tapes edited by Insert Editing or Audio Dubbing.)

㉕ **INPUT SELECT Switch**
Used to select the corresponding connectors if you wish to record from the external input connectors.
Select the program position "A1" or "A2" on Channel Display with **INPUT SELECT** on the Remote Controller.
S-VIDEO: For recording through the S-VIDEO IN and AUDIO IN.
For playback through the S-VIDEO OUT and AUDIO OUT.
LINE: For recording through the VIDEO IN and AUDIO IN.

㉖ **TAPE SELECT Switch**
Set according to the cassette tape length in order to obtain correct indication of the remaining tape time.
–T120: For cassettes T30, T60, T90, T120
T140–T160: For cassettes T140 and T160

㉗ **MONO Switch**
OFF: For normal recording.
ON: For recording normal sound during a stereo or Audio II broadcast. Select this position if the stereo sound is distorted due to poor reception.

㉘ **MTS Switch**
For selecting the audio track to be recorded.

㉙ **SHUTTLE Ring**
Used to control the playback speed step by step in both forward and reverse directions.

㉚ **JOG Dial**
Used to locate any desired frame precisely.

㉛ **JOG/SHUTTLE Button**
Switches to JOG and SHUTTLE operation.
- To resume Normal playback, press **PLAY** or this button again.

㉜ **CLOCK Button**
For setting the date and time, and memorizing the setting.

㉝ **PRESET/FINE/NORMAL Button**
For storing TV stations on the VCR.

㉞ **PROG/CHECK Button**
For selecting the program number (up to 8) for timer recording and checking the timer programming.

㉟ **TRACKING/V-LOCK + and – Buttons**
- Used to input data for clock setting and timer programming.
- For manual tracking adjustment:
Used to make a manual tracking adjustment to minimize color and noise bar distortions which cannot be eliminated by the automatic digital tracking control. After the manual adjustment, simultaneously press TRACKING/V-LOCK "+" and "–" Buttons to return to automatic digital tracking control.
If tapes recorded on another VCR are played back, manual tracking adjustment may be required to reproduce optimum Hi-Fi sound and picture quality.
- For slow tracking adjustment:
Used to minimize the noise bar distortions during Still, Still Advance or Slow playback. Put VCR in Slow playback to make this adjustment.
- For vertical locking adjustment:
Used to minimize vertical jitter during Still playback.

㊱ **NEXT Button**
Used to memorize input data and to change to the next display segment. Each time you press this button, the flashing indication on Date Display changes in the order YEAR, MONTH, DAY, HOUR, MINUTE.

㊲ **ANT SELECT Button**
Used to select the tuning input mode.

㊳ **ADD/DELETE Button**
Used to blank unoccupied program positions.

㊴ **AUDIO DUB Button**
Used to make an Audio Dub. (The Audio Dub indicator is lit).

㊵ **INSERT Button**
Used for Insert Editing. (The Insert Edit Indicator is lit.)

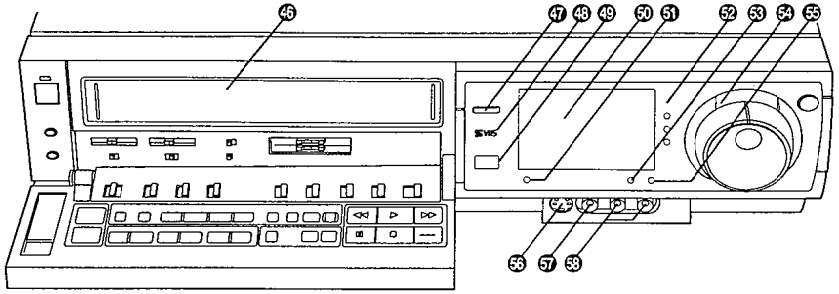
㊶ **TIMER REC Button**
Used to enter VCR Timer Recording; standby mode. When Timer Recording has been activated ("⏲" appears on the VCR Display), the VCR cannot be operated manually.
Press this button again to operate the VCR. Pressing this button if no Timer Recording data is programmed or no cassette is inserted, "⏲" flashes on and off to indicate that Timer Recording cannot be performed.

㊷ **COLOR/BW Switch**
COLOR: Forced color mode.
Burst signal is forcibly superimposed onto the output signal.
BW: Forced BW mode.
Chroma signal including the burst signal from the output signal is forcibly muted.

㊸ **AUTO/WIDE/NOR Switch**
AUTO: In recording mode, the unit searchs for the DC component on the chroma signal of the S-VIDEO signal, and when the DC is detected, the ID is recorded onto the CTL signal as the WIDE signal.
In playback mode, the ID recorded on the CTL signal is detected and superimposed onto to chroma signal output of the S-VIDEO signal.
WIDE: In recording mode, the ID is recorded forciby onto the CTL signal, and in the playback mode, DC is superimposed onto the chroma signal output of the S-VIDEO signal.
NOR: Fixed to normal recording and playback mode.

㊹ **RESET Switch**
To reset the counter to 0000.

㊺ **Linear Audio REC Switch**
L+R: Same signal as the mixed Hi-Fi audio is recorded and played back.
LINEAR: Linear audio input signal of the rear panel is recorded and played back.



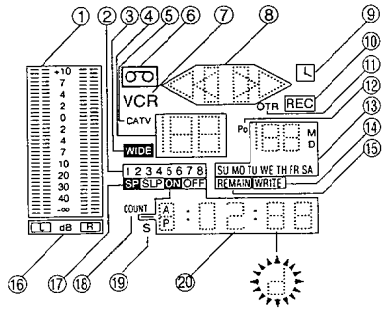
46 Cassette Compartment

47 PUSH-OPEN
Opens the control panel.

48 S-VHS Indicator

49 Infrared Remote Control Receiver Window
Receives signals from the Remote Controller.

50 Multi-Function Display



When dew forms:
Dew indicator

① Audio Level Meter
② Timer Program Number
③ Wide 16 × 9 Playback
④ Channel Display
⑤ Cable TV Indicator
⑥ Cassette-in Indicator
⑦ VCR Mode Indicator
⑧ Tape Running Incicator
⑨ Timer Recording Indicator
⑩ Recording Indicator
⑪ OTR Mode Indicator
⑫ Position Indicator
⑬ Date Display
⑭ Write Indicator
⑮ Remaining Tape Time Indicator
⑯ Audio Track Indicators
⑰ Tape Speed Indicator
⑱ Tape Counter Mode Indicator
⑲ Index Search Indicator
⑳ Clock/Tape Counter Display

51 TBC Indicator

52 Reception Indicators of Stereo, Audio II and Mono
Indicates the sound system of a broadcast.

53 Audio Dub Indicator

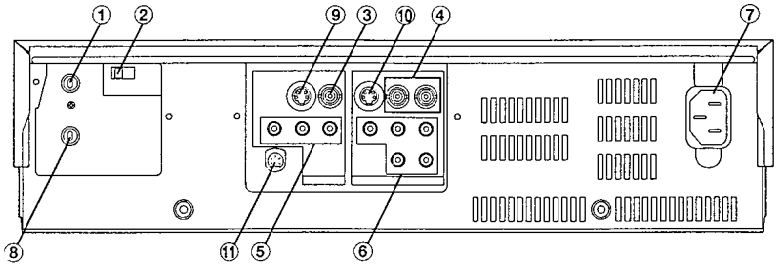
54 JOG/SHUTTLE Indicator
Lights up if JOG/SHUTTLE Button is pressed.

55 Insert Edit Indicator

56 S-VIDEO IN Connector (AV2)
For connecting the S-video cable of a video camera or another VCR equipped with an S-VIDEO OUT connector.

57 VIDEO IN Connector (AV2)
For connecting the video cable of a video camera or another VCR.

58 AUDIO IN Connectors (AV2)
For connecting the audio cable(s) of a video camera, a Hi-Fi stereo system or another VCR.



① VHF/UHF OUT Connector
For connecting to a TV antenna connector.

② CH3/CH4 Switch
Used to select the RF Converter Channel (CH3 or CH4). Select channel not used in your area.

③ VIDEO IN Connector (AV1)
For connecting to another VCR or to a signal source equipped with a video output connector.

④ VIDEO OUT Connector
For connecting to another VCR or to a TV equipped with a video input connector.

⑤ AUDIO IN Connector (AV1)
For connecting the audio cables of a stereo audio system.

⑥ AUDIO OUT Connectors
For connecting the audio cables to a stereo audio system or to a TV equipped with audio input connectors.

⑦ AC IN~

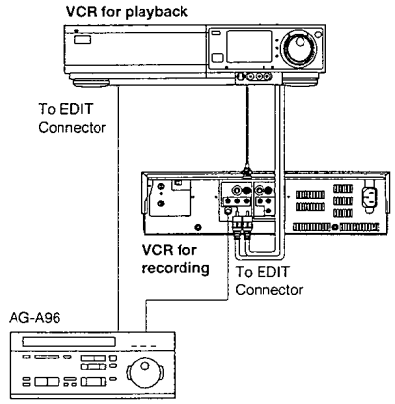
⑧ VHF/UHF IN Connector
For connecting an external antenna.

⑨ S-VIDEO IN Connector (AV1)
For connecting to another VCR or to a signal source equipped with an S-Video output connector.

⑩ S-VIDEO OUT Connector
For connecting to another VCR or to a TV equipped with an S-Video input connector.

⑪ EDIT Connector
By connecting the optional Editing Controller AG-A96 to this connector, editing functions can be performed more quickly and efficiently between two VCRs or between a VCR and a camera recorder.

The use of the Editing Controller AG-A96 (optional) gives you control over both the playback and the recording VCRs directly from this controller, to let you perform such editing functions as Assemble Editing, Insert Editing and Audio Dubbing more quickly and efficiently.

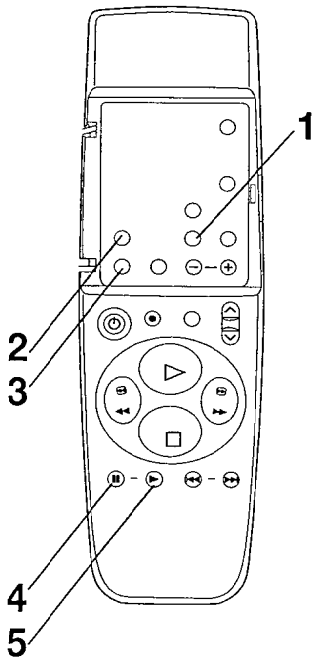


Carefully read the operating instructions for the AG-A96.

Caution:
When using the AG-A96, switch the AG-A96 to the standard speed moce. Do this by pressing the EDIT STOP button and PLAYER button simultaneously.

Be sure to set the Shuttle Ring on this unit to the PAUSE mode when using the AG-A96.

Infrared Remote Controller



1 INPUT SELECT Button
Selects external recording source connected to video/audio input connectors. "A1" or "A2" appears on the VCR Display.
A1: Recording through S-VIDEO IN or VIDEO IN and AUDIO IN Connectors on Rear Panel.
A2: Recording through S-VIDEO IN or VIDEO IN and AUDIO IN Connectors on Front Panel.

2 CLOCK/COUNTER Button
Changes the indication on the VCR Display from CLOCK time to COUNTER (tape running time) and vice versa. If the character-forming segments for seconds are circulating on COUNTER Display, this indicates that there is nothing recorded on the tape being moved.

TAPE REMAIN Button
Changes the indication of the VCR Display from tape running time (COUNTER) to remaining tape time, or vice versa. "REMAIN" appears on the VCR Display during remaining tape time display mode.

3 RESET Button
Resets the Tape Counter (tape running time) to "0:00.00".
- The Tape Counter is automatically reset to "0:00.00" when a cassette is inserted.

4 STILL ADV Button
For Still Picture Advance playback. Each time you press this button during Still playback, the still picture is advanced by one field.

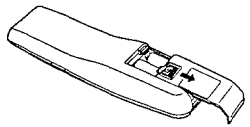
5 SLOW Button
For Slow Motion playback. Press SLOW Button during normal playback. The slow-motion speed can be varied with "+" or "−" Buttons.

Power source for the Remote Controller
The Infrared Remote Controller is powered by 2 ANSI "AA" size batteries. Replace the batteries with new ones about every year: However, battery life depends on the frequency of use or the selectec operation mode.

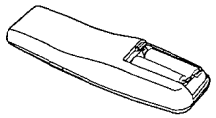
Precautions for battery replacement
- Load new batteries with their polarities (+ and −) aligned correctly.
- Do not mix new and old batteries and never use an alkaline battery with a manganese battery.
- Do not apply heat to the batteries, or an internal short-circuit may occur.
- Remove batteries and store them in a cool and dry place when Remote Controller is not in use for long periods of time.
- Remove spent batteries immediately and dispose of them.

Loading the batteries

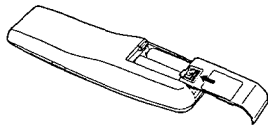
1 Remove Battery Compartment Lid.



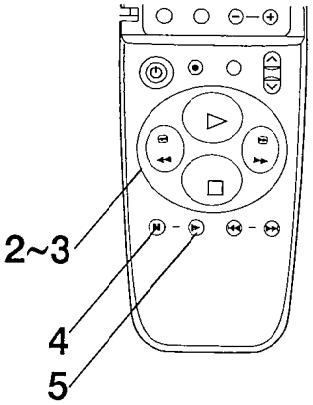
2 Insert the batteries, aligning their polarities as indicated inside Battery Compartment.

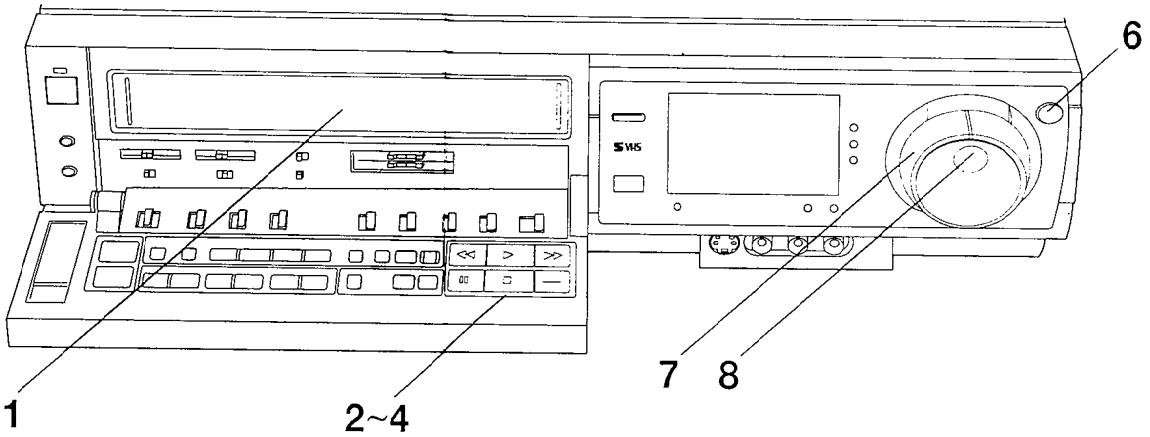


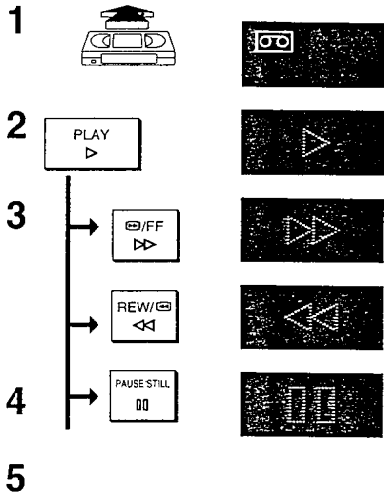
3 Replace the lid.



Playback







Introduction

The following functions can be performed with the Remote Controller or with the appropriate operation buttons on the VCR.

- Normal playback
- Cue/Review playback
- Still playback
- Slow playback*
- Shuttle operation to change the playback speed in small steps between Still and Cue/Review playback.
- Jog operation to locate the desired picture exactly.

*Operative only with the Remote Controller.

The playback picture appears promptly on the TV from the Stop mode because the VCR head cylinder remains rotating for about 20 minutes even in the Stop mode.

Preparation

Turn the TV on and select channel 3 or 4 for video playback on the TV.

Playback procedure

1 Insert a recorded cassette.
- If a cassette has been inside the VCR, press **POWER** to turn VCR on.

Normal playback

2 Press **PLAY** to start Normal playback.

Cue/Review playback

3 Keep **FF** or **REW** pressed to perform Cue or Review playback at a higher speed in forward or backward direction.
- This is convenient to search for a specific scene during Normal playback.
  If you tap **FF** or **REW**, Cue or Review playback remains activated. Press **PLAY** to resume normal playback.

Still playback

4 Press **PAUSE/STILL** to view the still picture during Normal playback.
Press **PLAY** or **PAUSE/STILL** to resume normal playback.

Slow playback

5 Press **SLOW** on the Remote Controller to view the slow-motion picture. The tape speed of Slow playback can be adjusted with "+" or "–".
Press **PLAY** to resume normal playback.

Jog/Shuttle playback

5 Press **JOG/SHUTTLE**. Still playback starts.

7 Rotate **Shuttle Ring** to select the desired playback speed in forward and backward directions.

8 Rotate **Jog Dial** to locate the desired picture precisely.

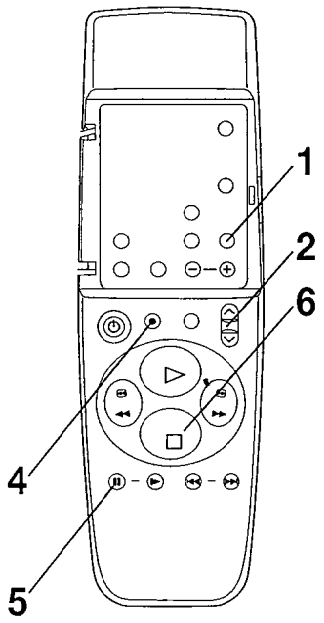
Options

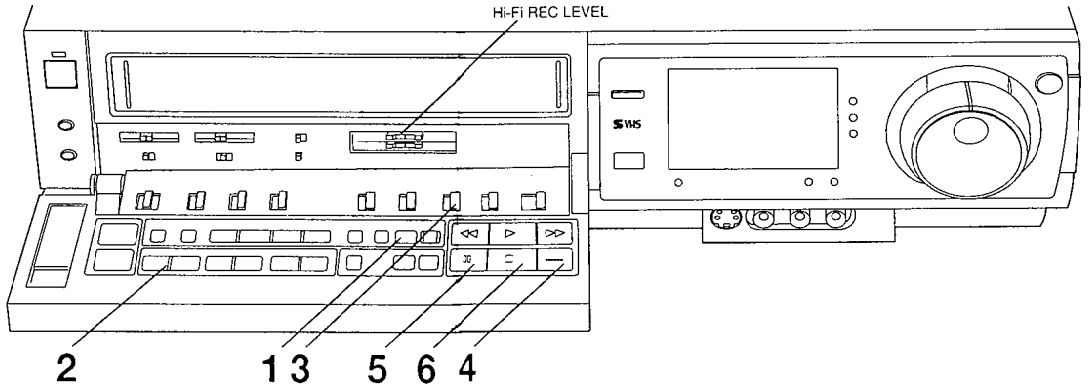
- If you press **TAPE REMAIN** on the Remote Controller, the approximate remaining tape time is indicated in hours and minutes. For correct Remaining Tape Time indication, set **TAPE SELECT** on the VCR according to the cassette type:
  –T120: For cassettes T30, T60, T90, T120
  T140–T160: For cassettes T140 and T160
- To listen to the sound during Cue playback and Review playback, set **SEARCH SOUND** on the VCR to "ON".
- If the picture shakes from side to side or is distorted during playback because it was recorded on another VCR, you can improve the picture quality. Set **TBC** on VCR to "ON". Normally, this switch must be set to "OFF".

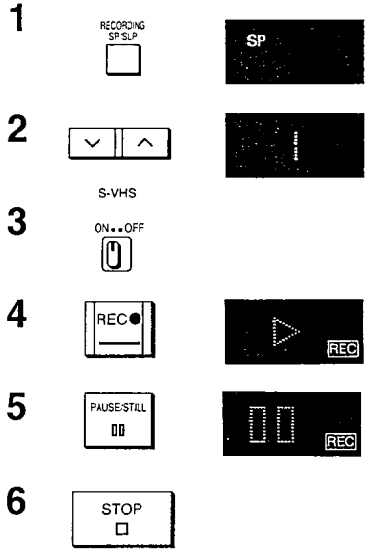
Notes:

- Cue/Review playback for more than 10 minutes switches the VCR to normal playback.
- Still or Slow playback for more than 5 minutes switches the VCR to normal playback.
- Cue or Review playback picture can contain horizontal noise bars or distortions. However this does not indicate a malfunction.
- In the playback of the LP recording:
  1. In the special playback functions except normal playback, the picture may contain horizontal noise bars, distortions, unstable colors, or can be in black-and-white.
  2. A tape recorded on another VCR may need Tracking Control adjustment; picture may still be inferior owing to format limitations.

On-the-spot Recording







Introduction

You can record a TV broadcast without turning on the TV by using the Infrared Remote Controller or by using the appropriate buttons on the VCR. You can also watch a TV broadcast on the TV while recording another TV broadcast.

Preparations

- Insert a cassette with an erasure prevention tab. (If a cassette has been inside VCR, press **POWER** to turn VCR on.)
- Press **VCR/TV** to display "VCR" on the VCR Display.

Recording procedure

1 Select the desired tape speed "SP" or "SLP" with the **RECORDING SP/SLP** button.

2 Select the desired channel to be recorded by pressing ∨ or ∧ on the VCR.
- If you wish to confirm proper reception, turn TV on and select channel 3 or 4 (for video playback channel) on TV.

3 Set **S-VHS** to "ON" or "OFF".
ON: S-VHS tape is recorded in S-VHS format; VHS tape in VHS format.
OFF: for VHS format on S-VHS tape

4 Press **REC** to start Recording.
- When a video cassette without an erasure prevention tab is inserted, "⊡" blinks and an alarm sounds indicating that recording is not possible.

5 To interrupt recording temporarily, press **PAUSE/STILL**. Press this button again to continue recording.
- A recording pause for more than 5 minutes switches the VCR to Stop mode to protect the tape and the video heads.

6 Press **STOP** to stop recording.

Watching any other TV broadcast while recording

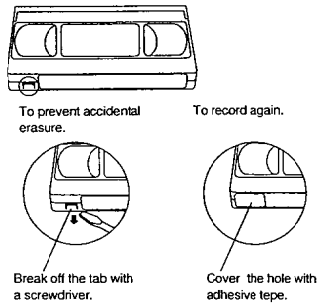
1 Set **VCR/TV** to "TV" during recording.

2 Select the desired channel on TV.

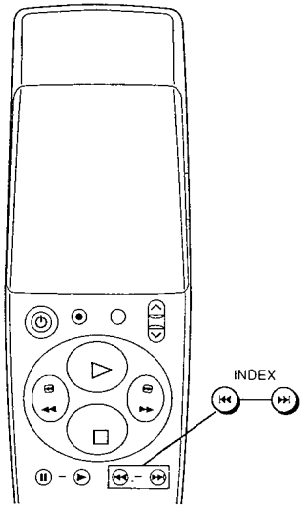
Hi-Fi Audio Recording Level Adjustment

Normally set **Hi-Fi REC LEVEL** in the middle "5" position (click stop). Recommended peaks in audio level are +4 dB. When using the VCR as a Hi-Fi Audio Recorder or when producing your own tapes, it may be desirable to adjust **Hi-Fi REC LEVEL** to some other position.
- Sound on normal track is adjusted automatically.

Erasure Prevention Tab



Automatic Features



Introduction

This VCR has the following automatic functions:

Auto power on
Inserting a cassette turns the VCR on.

Auto playback
Inserting a cassette without an erasure prevention tab starts Playback.

Auto rewind
Fully rewind the tape when the tape reaches its end during Playback and Recording (except OTR and Timer Recording).

Auto power off eject
Ejects a cassette when the VCR is OFF by pressing **EJECT** only (the VCR turns OFF after ejecting the cassette).

Auto head cleaning
Removes tape particles and dust from the video heads so that the heads always provide optimum picture quality. While this function is working, some mechanical noise can be heard from the VCR; this does not indicate a malfunction.

Index Search

Introduction

This function allows you to quickly locate the beginning of each recording marked with an index signal. An index signal is set automatically, and the indicator "WRITE" appears for a few seconds on the VCR Display in the following cases:
- When recording is started with the **REC** Button.
- At the beginning of Timer or OTR Recording.

Additionally, you can set an index signal during Recording by pressing the **REC** Button(s) at the desired position.

It is possible to skip up to 20 index signals in forward or backward direction to access the desired recording.

Preparation

Press **PLAY** or **STOP** Button.

For example:
Access the 2nd recorded segment ahead.

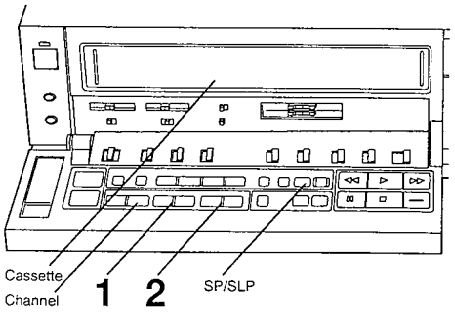
Operation

Press **INDEX** ▶▶I twice to input the number of the index signal.
When the input index signal is reached, normal playback starts.

- Press **INDEX** I◀◀ to access previous recorded segment (in backward direction).

Notes:
- The interval between two index signals should be at least 3 minutes in SP recording and 5 minutes in SLP recording.
- If using cassettes that contain long blank (unrecorded) portions or which have been repeatedly recorded and re-recorded, Search may not function correctly.

One-Touch Timer Recording (OTR)



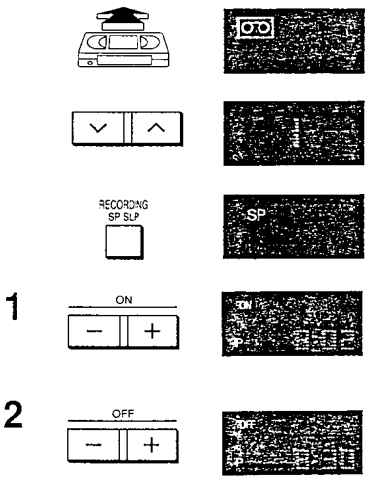
Introduction

OTR is for immediately setting the VCR to record a TV broadcast starting within the next 24 hours.

Preparation

- Insert a cassette with an erasure prevention tab. (If it has already been inserted, press **POWER** to turn VCR on.)
- Select the desired tape speed "SP" or "SLP" with **RECORDING SP/SLP**.
- Select the desired channel to be recorded by pressing ∨ or ∧ on VCR.

For example:
OTR recording of TV Station 1 from 8:02 pm to 8:30 pm.



OTR procedure

Each time you tap **OTR ON** +/– **OTR OFF** +/– Button, the time indication changes in 1-minute increments.
Keeping it depressed changes the time indication in 10-minutes increments.

1 Set OTR starting time by pressing **ON** + or –.
If you want to start OTR recording immediately, disregard this step.
- When a cassette without an erasure prevention tab is inserted, "📼" blinks and an alarm sounds indicating that recording is not possible.

2 Set OTR ending time by pressing **OFF** + or –.
- If the OTR starting time is set, **OFF** + or – Button must be pressed within 8 seconds to select the OTR ending time, otherwise the starting time will be canceled.

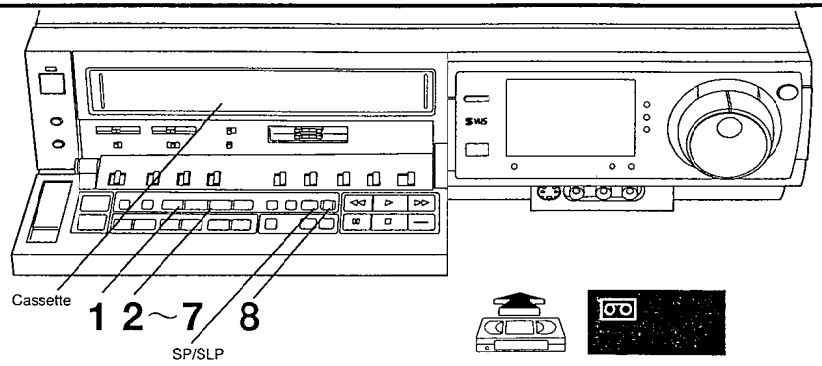
After 4 seconds, the display will automatically change back to the starting time indication.
The VCR will automatically switch off, when the OTR is completed. To turn the VCR on, press **POWER**.

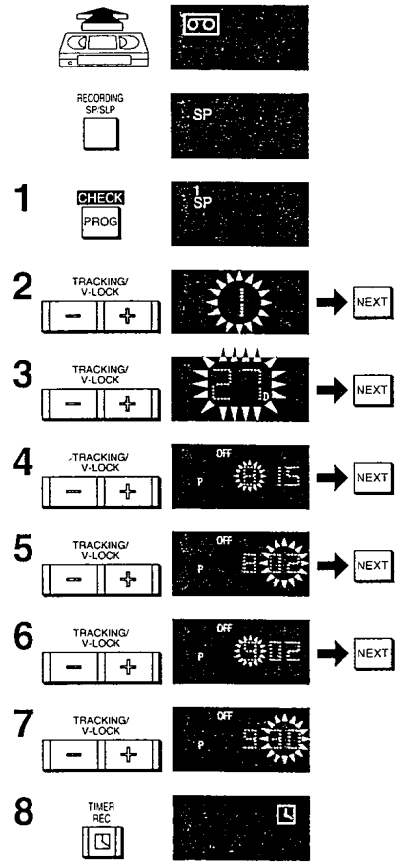
Notes:
- To interrupt an OTR, press **POWER**.
- It is possible to change the OTR starting time or ending time before the recording starts.
- It is possible to change the OTR ending time even during the recording.
- Be sure that the OTR function does not overlap with a programmed timer recording. An OTR always takes precedence over a timer recording.

To confirm the OTR ending time before the recording starts
Press **PROG/CHECK** once.
If pressed twice, the present time is displayed again.

Press **PROG/CHECK** to confirm the present time during recording.

Timer Recording





Introduction

You can program the VCR so that it automatically records up to 8 TV broadcasts with the period of one month.
You can also program Timer Recording of daily and weekly broadcasts at the same time.
For daily recording, there are three categories to choose from.
(1) from Monday to Friday, (2) from Monday to Saturday, (3) from Sunday to Saturday

For Example:
Timer programming for a TV program to be broadcast on Wednesday, October 27, from 8:02 pm to 9:30 pm, on program position (channel) 1, on timer program number 1.
(Present date=October 10, 1999)

Preparations

- Insert a cassette with an erasure prevention tab. (If it has already been inserted, press **POWER** to turn VCR the on.)
- Select the desired tape speed "SP" or "SLP" with **RECORDING SP/SLP**.

Timer Recording procedure

1 Press **PROG/CHECK** to start programming.
- Timer program number "1" appears. (Each time this button is pressed, the timer program number is changed.)

2 Press **TRACKING/V-LOCK** +/– to select the desired TV station and then **NEXT** to memorize input data and change to the next display segment.

3 Press **TRACKING/V-LOCK** +/– to set the starting date of timer recording and then **NEXT**.
- For daily recording, press **TRACKING/V-LOCK** – until the desired daily recording type appears.
- For weekly recording, press **TRACKING/V-LOCK** – until the desired indication for the day of the week appears.

4 Press **TRACKING/V-LOCK** +/– to set the start time (hour), then **NEXT**.

5 Press **TRACKING/V-LOCK** +/– to set the start time (minute), then **NEXT**.

6 Press **TRACKING/V-LOCK** +/– to set the end time (hour), then **NEXT**.

7 Press **TRACKING/V-LOCK** +/– to set the end time (minute). No need to press **NEXT**.
- Repeat steps 1 to 7 to program several timer recordings successively.

8 Press **TIMER REC** to activate Timer Recording.
- "⏲" appears on the VCR Display and the VCR cannot be operated manually.
- If you want to operate the VCR, press **TIMER REC** to switch off "⏲". To reactive the timer press this button again.

Confirming timer programming
Press **PROG/CHECK** to select the timer program number to be checked. The channel, date, starting and ending time are displayed for about 12 seconds.

Canceling timer programming
1 Press **TIMER REC** to deactivate Timer Recording. (Be sure that "⏲" disappears.)

2 Press **PROG/CHECK** to select the timer program number to be canceled.

3 Press **TRACKING/V-LOCK** +/– simultaneously for more than 3 seconds.

Note:
If a timer recording is interrupted or canceled, the programmed recording data is memorized until 4:00 am two days later. However, if another timer recording or OTR is activated or performed at 4:00 am two days later, the recording data will be maintained until 4 am on the following day.

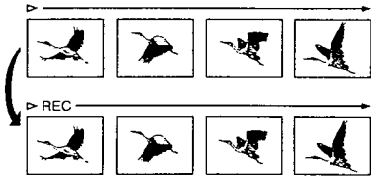
Editing

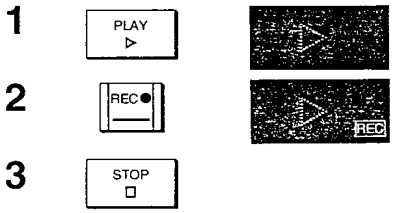
Copy Editing

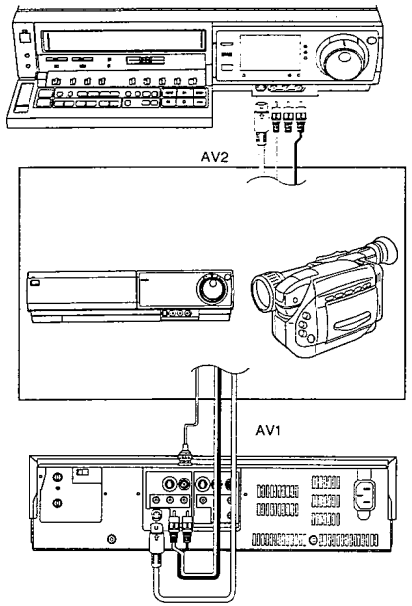
This function is used to make duplicates.

Preparations

- Connect a Movie Camera or another VCR to this VCR as shown in the diagram.
- Set **DETAIL/NOR/EDIT** to "EDIT".
- Insert a recorded cassette in the connected Movie Camera or another VCR, used as Player, and a blank cassette in this VCR, used as Recorder.
- Press **INPUT SELECT** on Remote Controller to select the program position (channel) "A1" or "A2".
  A1: Recording through S-VIDEO IN or VIDEO IN and AUDIO IN Connectors (AV1) on the rear panel.
  A2: Recording through S-VIDEO IN or VIDEO IN and AUDIO IN Connectors (AV2) on the front panel.
- Set **INPUT SELECT** on VCR to select the corresponding connectors.
  S-VIDEO: S-VIDEO IN and AUDIO IN Connectors
  LINE: VIDEO IN and AUDIO IN Connectors







Operations

1 Play back the recorded tape on the Player VCR.

2 Press **REC** on the Recording VCR.

3 Press **STOP** to stop copying.

Note:
Be sure to set **DETAIL/NOR/EDIT** to "NOR" after copying is finished for normal use.

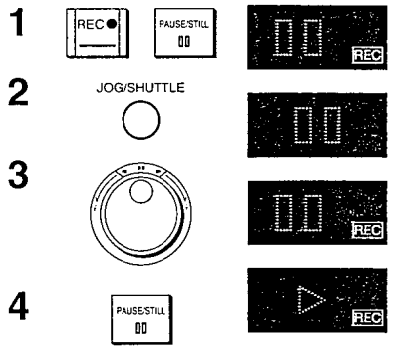
Assembly Editing

This function is used to make an edited tape from several other video recordings.

A new scene can be joined to the end of an existing recording without interference or distortion.

Preparations

- Insert a recorded cassette with an erasure prevention tab.
- Select the corresponding input connectors. (Refer to "Preparations" on page 26.)
- Set **DETAIL/NOR/EDIT** to "EDIT".



Operations

1 Press **REC** and then **PAUSE/STILL** to put the VCR in Recording Pause.

2 Press **JOG/SHUTTLE**.

3 Search for the end part of a scene by using the **JOG Dial**.
- 2 seconds later, the VCR is set to Recording Pause again.

4 Start Recording to join a new scene by pressing **PAUSE/STILL**.

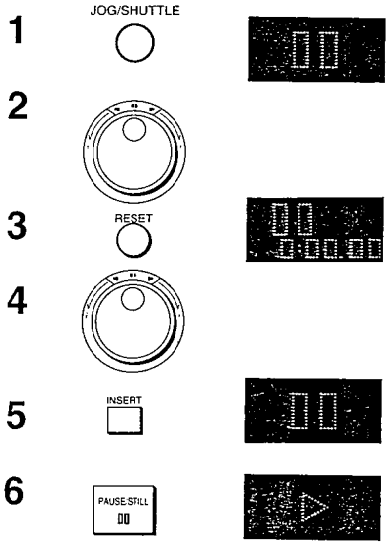
Insert Editing

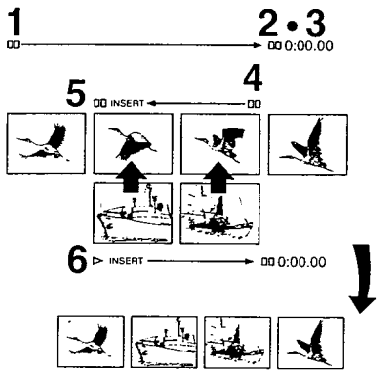
This function allows you to smoothly insert new scenes between selected Editing "In" and "Out" points on an existing recording.

Insert Editing cannot be executed on blank tape segments. In such a case, it is necessary to use Assembly Editing first.

Preparations

- Connect a Movie Camera or another VCR to this VCR as shown in the diagram on page 28.
- Insert a recorded cassette with an erasure prevention tab.
- Select the corresponding input connectors. (Refer to "Preparations" on page 28.)
- Set **DETAIL/NOR/EDIT** to "EDIT".





Operations

1 Press **JOG/SHUTTLE**.

2 Search for Editing Out (ending) point with **SHUTTLE Ring** and **JOG Dial**. Put the VCR into Still playback.

3 Press **RESET** to reset the Tape Counter to "0:00.00".

4 Search for Editing In (starting) point with **SHUTTLE Ring** and **JOG Dial**. Put the VCR into Still playback.

5 Press **INSERT**. (INSERT Indicator is lit.)
- If you want to replace the original sound-track on the normal audio track with a new sound-track, press **AUDIO DUB**. (AUDIO DUB Indicator is lit.)

6 Press **PAUSE/STILL** to start Insert Editing.
- Insert Editing stops when the tape reaches editing out point (counter position "0:00.00"). The VCR switches to Still playback.

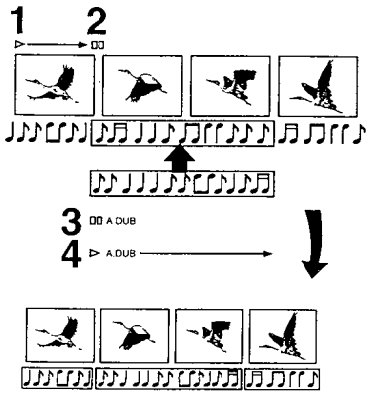
Notes:
- When using the Insert Editing function, switching to the SP mode is recommended.
- Normal audio is retained in any insert video edit, while any recorded Hi-Fi audio will be lost.

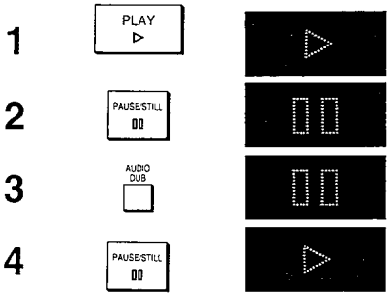
Audio Dubbing

This function is used to add background music, narration, etc. on an already recorded tape.

Preparations

- Insert a recorded cassette with an erasure prevention tab.
- Select the corresponding input connectors. (Refer to "Preparations" on page 28.)





Operations

1 Press **PLAY** and search for the starting point where you wish to record the new sound-track.

2 Press **PAUSE/STILL** at the starting point of Audio Dubbing.

3 Press **AUDIO DUB**. (AUDIO DUB Indicator is lit.)

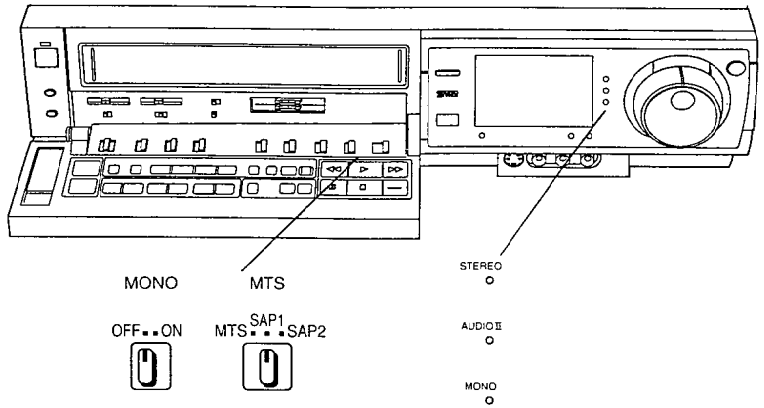
4 Press **PAUSE/STILL** to start Audio Dubbing.

5 Stop Audio Dubbing by pressing **STOP**.

Note:
A new sound is dubbed onto the normal audio track of the tape, and the original sound is erased. However, the original sound is maintained on the Hi-Fi audio tracks. This means that Audio Dubbing is made monaurally.

- Press **AUDIO OUT** to select the normal audio track to listen to the sound recorded with Audio Dubbing.
- Select the Hi-Fi audio tracks to listen to the original sound.
- Set **Hi-Fi/NORMAL MIX** to "ON" to listen to both the original sound and the sound-track added by Audio Dubbing.

Audio Channel Selection



When a stereo and/or Audio II broadcast is received, "STEREO" and/or "AUDIO II" are lit to inform you of the type of broadcast.

The table below shows the TV broadcast type, MTS switch settings, and audio recording patterns.

Be sure that **MONO** Switch is set to "OFF" before setting **MTS** Switch and follow the operation procedure described on page 23 to record on the Hi-Fi audio tracks.

TV Broadcast	MTS switch	Audio Track		
		Normal (Mono)	Hi-Fi	
			Left	Right
Mono	All position	Mono	Mono	Mono
Stereo	All position	L + R (Mixed)	Left	Right
Mono and Audio II (SAP)	MTS	Mono	Mono	Mono
	SAP1	Mono	Mono	Audio II
	SAP2	Mono	Audio II	
Stereo and Audio II (SAP)	MTS	L + R (Mixed)	Left	Right
	SAP1	L + R (Mixed)	L + R (Mixed)	Audio II
	SAP2	L + R (Mixed)	Audio II	

MONO Switch

If the sound of a stereo or Audio II broadcast is impaired by noise due to weak reception, set **MONO** Switch to "ON". ("MONO" indicator is lit.) The TV broadcast is recorded monaurally for easier listening. To resume stereophonic recording, set **MONO** to "OFF".

Note:

This table shows the condition when the Linear Audio REC Switch is in the "L+R" position. When this switch is in the "LINEAR" position, the linear audio input signal is recorded.

Before Requesting Service

Before requesting service, check the following points once again.

No Correct VCR Operation

SYMPTOM	CAUSE	REMEDY	CHECKED
No Indications on the VCR Display.	AC Power Cord is not connected to a live AC outlet.	Connect the AC Power Cord the VCR.	
VCR Display is on but VCR does not function.	Timer Recording is activated. (Timer Recording Indicator is lit.)	Press TIMER REC to deactivated Timer Recording mode.	
	Safety devices are operating, or Dew Light is ON.	Turn off POWER, disconnect AC Power Cord from AC outlet, About 1 minute later, reconnect AC Power Cord to AC outlet and turn on POWER.	
VCR stops operating and turns itself off a few seconds later.	Tape is jammed in VCR.	Do not try to remove jammed tape as this may damage it. Consult your dealer.	

REGULAR MAINTENANCE

The purpose of periodic maintenance is to preserve the functioning of this machine throughout its useful life. The user or service dealer should perform these maintenance regularly to ensure that maximum utility is obtained from the machine.

The VCR is a complicated place of equipment. It contains many belts, rollers, heads etc., which become worn, and deterlorate as time goes by, causing trouble. Dust and dirt will also impede the proper functioning of the machine. In light of this, it is very important that overall maintenance be done according to the maintenance chart to maintain the functions of the VCR, and to avoid accidental problems. This maintenance should also be performed after any repairs are done on the equipment.

The VCR used for business applications requires particular attention for several reasons. The installation conditions and applications are not always the best. Long use times, or poor environmental conditions may adversely affect the lifespan and performance of the machine. Regular maintenance assures that the purchaser obtains the maximum value for his expenditure. Accordingly, the necessity of regular maintenance should be fully explained at the time of sale, as well as during after-sale repairs.

MAINTENANCE CHART

The following periodic maintenance is required to prolong the life of the machine.

Ref. No. IN P/L	Parts Name	Hour										Ref. No. IN P/L	Parts Name	Hour									
		500	1000	1500	2000	2500	3000	3500	4000	4500	5000			500	1000	1500	2000	2500	3000	3500	4000	4500	5000
———	Tape Transporter	●	●	●	●	●	●	●	●	●	●	63(1)	Supply Brake Arm U				◎				◎		
20(1)	A/C Head U	●	●	●	●	●	●	●	◎	●	●	64(1)	Take-up Brake Arm U				◎				◎		
73(1)	Cylinder U	●	●	●	●	●	●	●	◎	●	●	9(1)	Cleaner Arm U				◎				◎		
77(1)	Upper Cylinder	●	◎	●	◎	●	◎	●	◎	●	◎	12(1)	FE Head	●	●	●	●	●	●	●	◎	●	●
60(1)	Supply Reel Table U	●	●	●	●△	●	●	●	●△	●	●△	127(2)	Mode Switch								◎		
61(1)	Take-up Reel Tuble U	●	●	●	●△	●	●	●	●△	●	●△	108(2)	Main Cam Gear				×				×		
105(2)	Capstan Housing U								◎			121(2)	Loading Motor U				◎				◎		
106(2)	Capstan Roter U	●	●△	●	●△	●	●△	●	◎△	●	●△	40(1)	Inclined Base (S) U				▲				▲		◎
49(1)	Pinch Arm U				◎				◎			42(1)	Inclined Base (T) U				▲				▲		◎
15(1)	Impedance Roller U	●	●	●	●	●	●	●	◎	●	●												
52(1)	Tension Band U				◎				◎														
113(2)	Timing Belt				◎				◎														

*** NOTE:**

Symbol	Maintenence	Requirement	Remark
●	Cleaning	Ethyl-alcohol or Cleaning Liquid (Purchase locally)	Wipe dirt from the parts using soft cloth impregnated with Ethyl-Alcohol. Note: When cleaning rubber parts, avoid using excessive alcohol since it may accelerate deterioration of these parts. After cleaning with alcohol, wipe the alcohol quickly and thoroughly.
◎	Replacement	———	———
△	Lubrication	High Quality Spindle Oil (Purchase locally)	Supply one or two drops of oil.
▲	Greasing	Molytone Grease (MOR265)	Wipe the old grease and apply new grease.
×	Greasing	S.C.R. Grease (VFK0680)	Wipe the old grease and apply new grease.

SECTION 2. DISASSEMBLY PROCEDURE

2-1 DISASSEMBLY FLOW CHART

This flow chart indicates disassmbly steps of the cabinet parts and circuit boards in order to find the necessary items for servicing.
When reassembling, perform the steps in the reverse order.

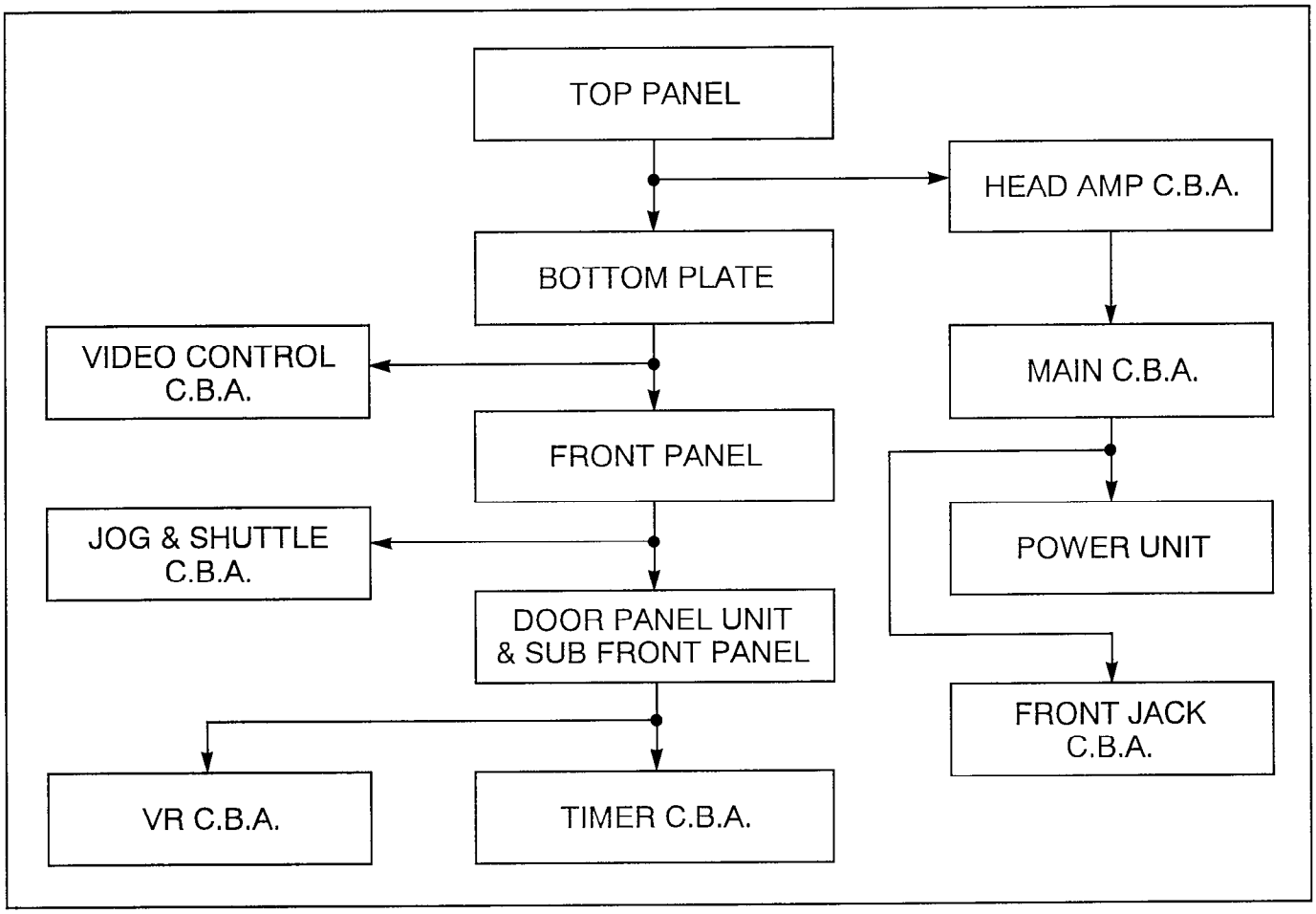


Fig. D1

2-2 DISASSEMBLY METHOD

2-2-1. Removal of the Top Panel

1. Unscrew the 4 screws (A) on the Top Panel.
2. Lift up rear portion of the TopPanel than slide it off the back of the uint.

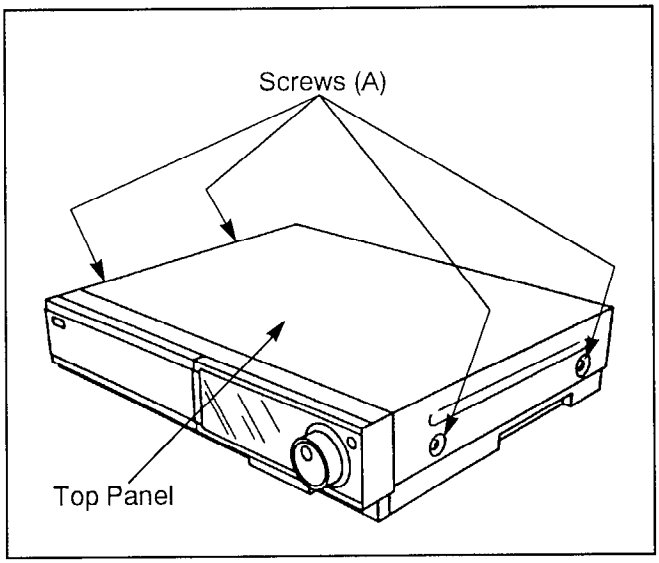


Fig. D2

2-2-2. Removal of the Bottom Plate

1. Unscrew the 7 screws (B) on the Bottom Plate.
2. Lift the Bottom Plate.

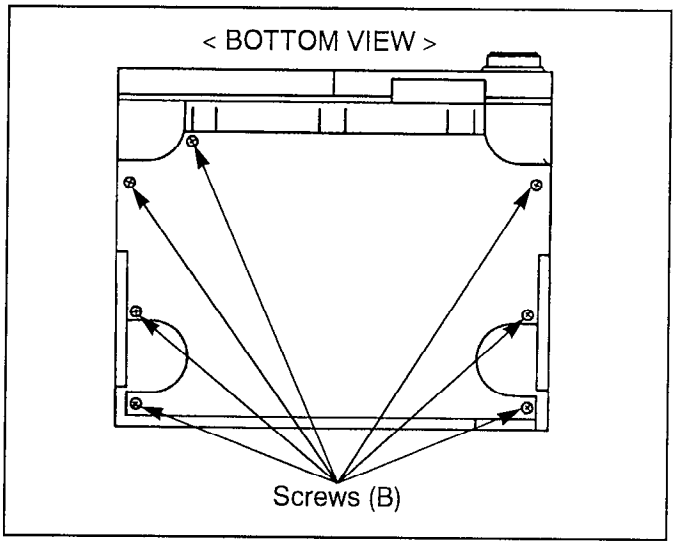


Fig. D3

2-2-3. Removal of the Bottom Plate

1. Unscrew a screw (C) on the top of the Front Panel.
2. Press the Door Panel OPEN button.
3. Unlock the 7 locking tabs (D) of the Front Panel.
4. Carefully pull out the Front Panel with disconnect P6701 connector.

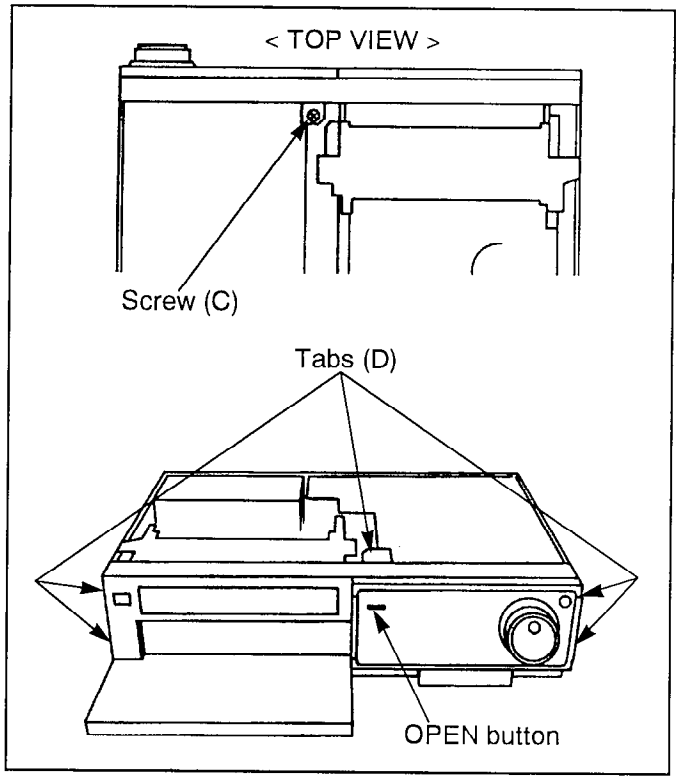


Fig. D4

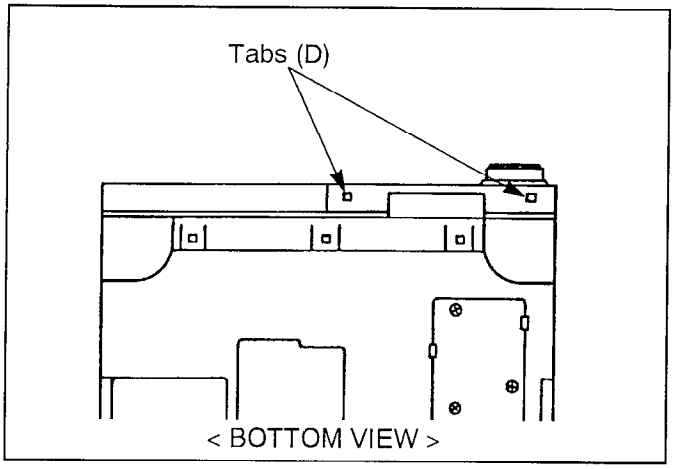


Fig. D4-1

2-2-4. Removal of the Door Panel Unit and Sub Front Panel

1. Unscrew the 4 screws (E) on the Timer C.B.A. and VR C.B.A..
2. Unlock the 3 locking tabs (F) on the frame.
3. Disconnect the 2 flexible cables from P6501 and P6853.

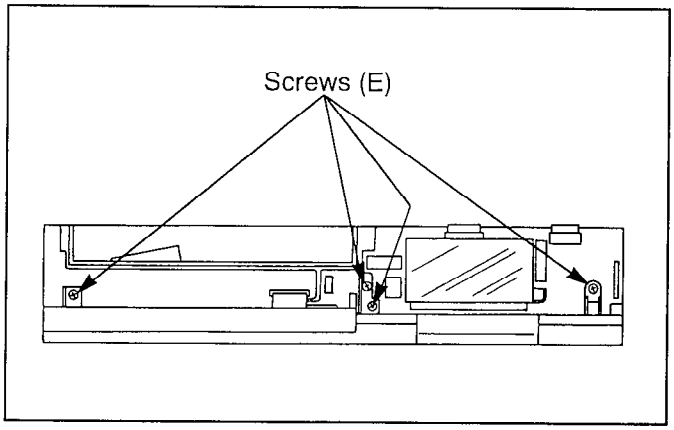


Fig. D5

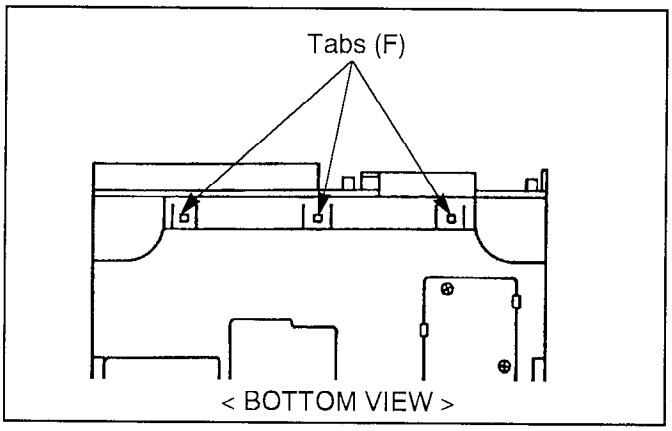


Fig. D5-1

2-2-5. Removal of the Door Panel Switch Unit

1. Unscrew the 3 screws (G) on the Door Panel.
2. Unlock the 10 locking tabs (H) on the Door Panel Frame.
3. Carefully slide the Switch C.B.A. Unit in the direction indicated by arrow.

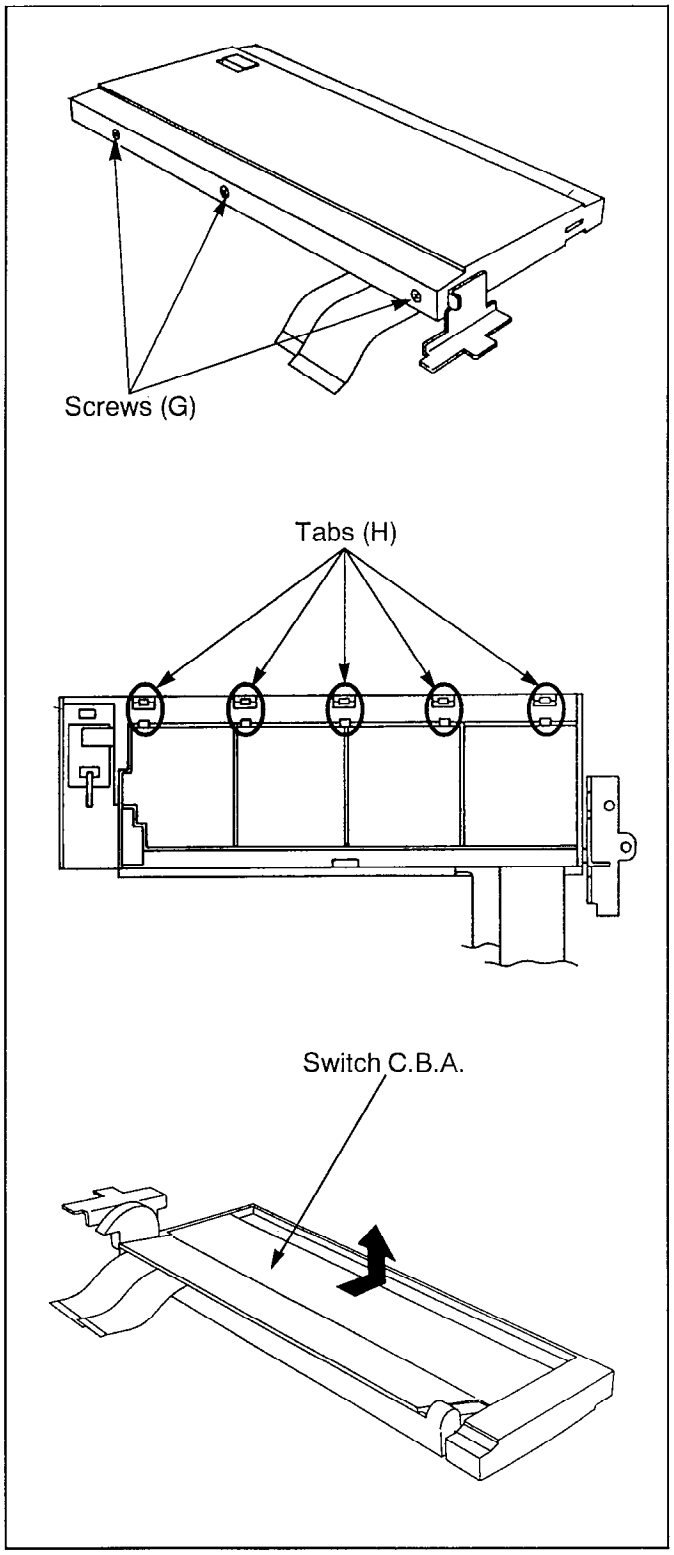


Fig. D6

2-2-6. Removal of the Timer C.B.A.

1. Unscrew a screw (I) on the Timer C.B.A..
2. Unlock a locking tab (J) on the Timer C.B.A..
3. Disconnect the 2 flexible cables (P6502 and P6503) and a connector (P6504).

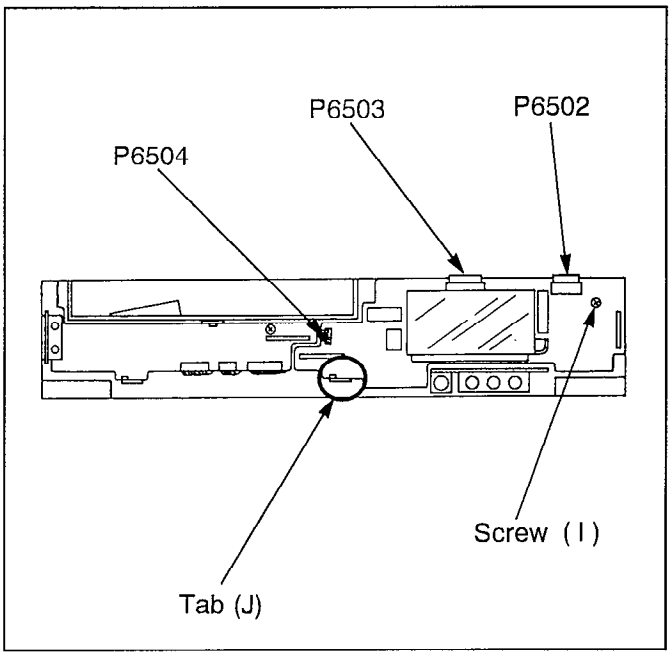


Fig. D7

2-2-7. Removal of the VR C.B.A.

1. Unscrew a screw (K) on the VR C.B.A..
2. Unlock the 2 locking tabs (L) on the VR C.B.A..
3. Disconnect the 3 connectors (P6851,P6852 and P6870).

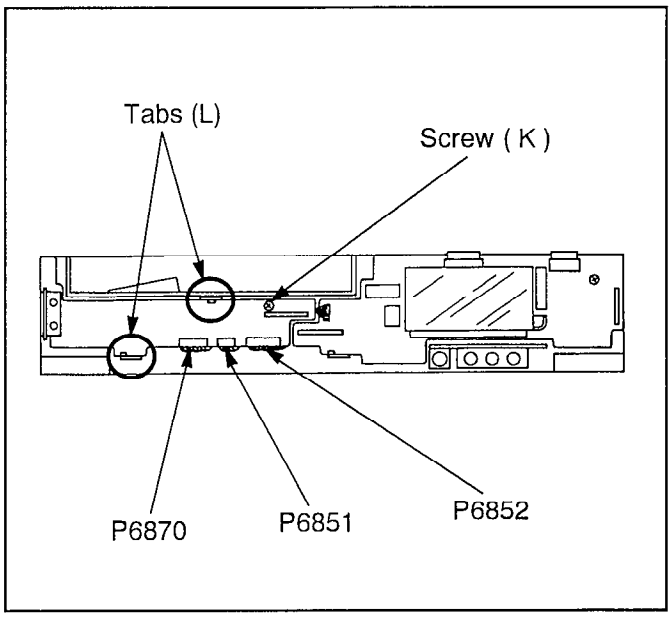


Fig. D8

2-2-8. Removal of the Head Amp C.B.A.

1. Unscrew the 2 screws (M) on the Head Amp C.B.A..
2. Disconnect the 2 flexible cables(P551,P501).
3. Carefully pull out the Head Amp C.B.A..

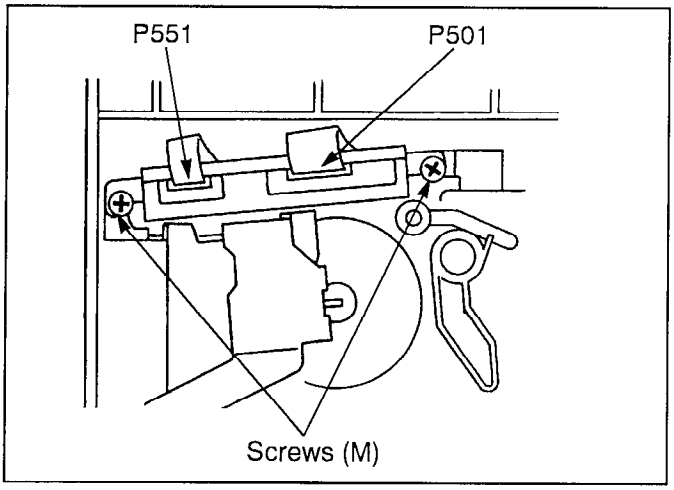


Fig. D9

2-2-9. Removal of the Main C.B.A.

1. Unscrew the 5 screws (N) on the Main C.B.A..
2. Unscrew the 4 screws (O) on rear side of the frame.
3. Unlock a locking tab (P) on the Main C.B.A..

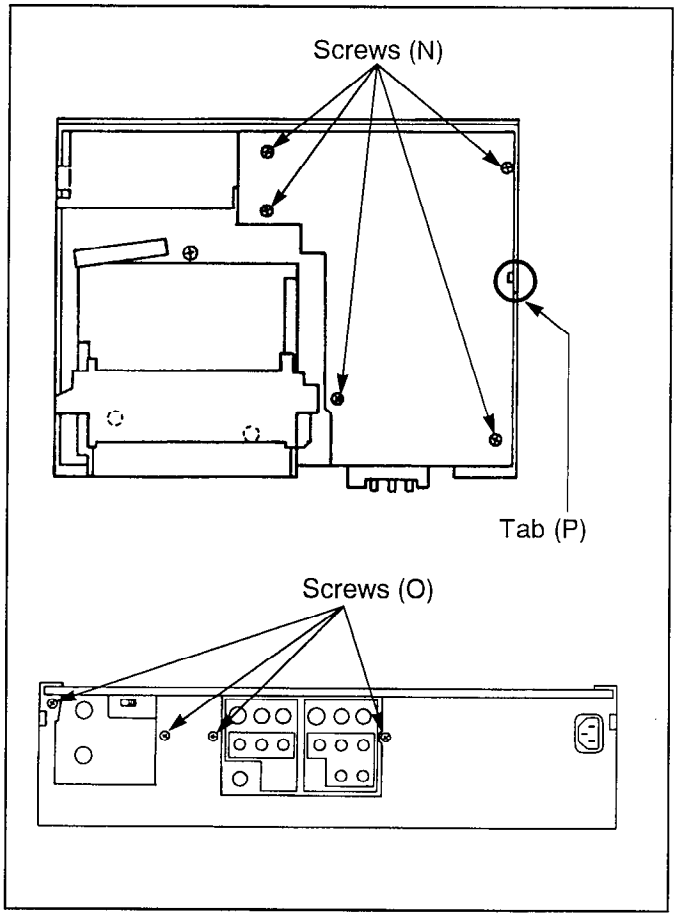


Fig. D10

2-2-10. Removal of the Power Unit

1. Unscrew the 3 screws (Q) on the Power Unit.
2. Lift up the Power Unit and pull out a connector (P1002).

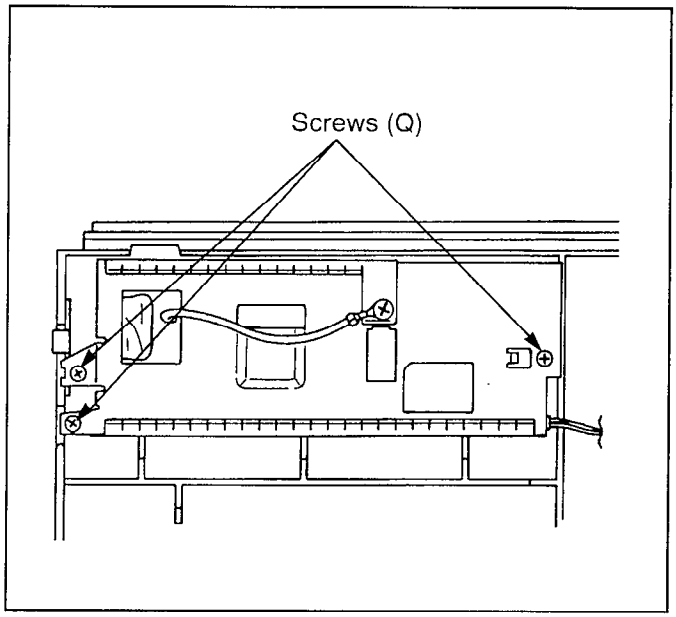


Fig. D11

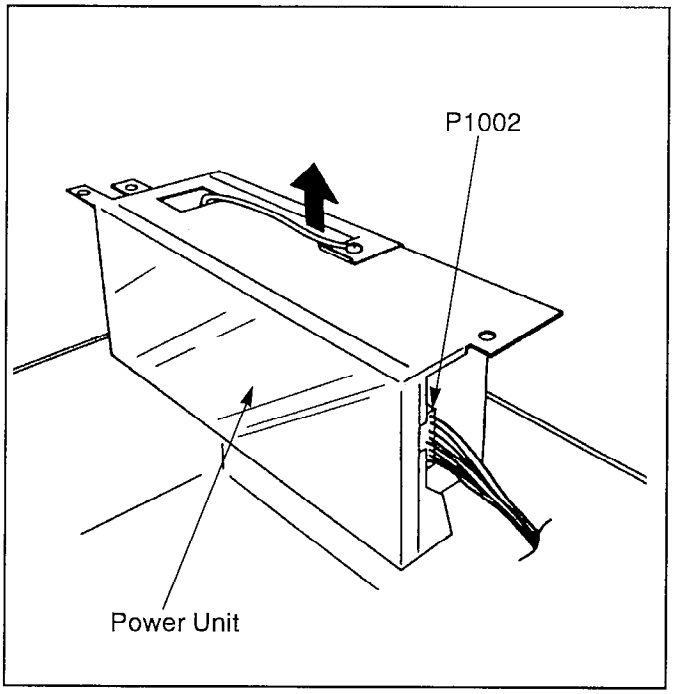


Fig. D11-1

2-2-11. Removal of the Video Control C.B.A.

1. Unscrew the 3 screws (R) on the Video Control C.B.A..
2. Unlock the 2 locking tabs (S) on the Video Control C.B.A..
3. Disconnect the 3 connectors (P6001,6002 and P6003).

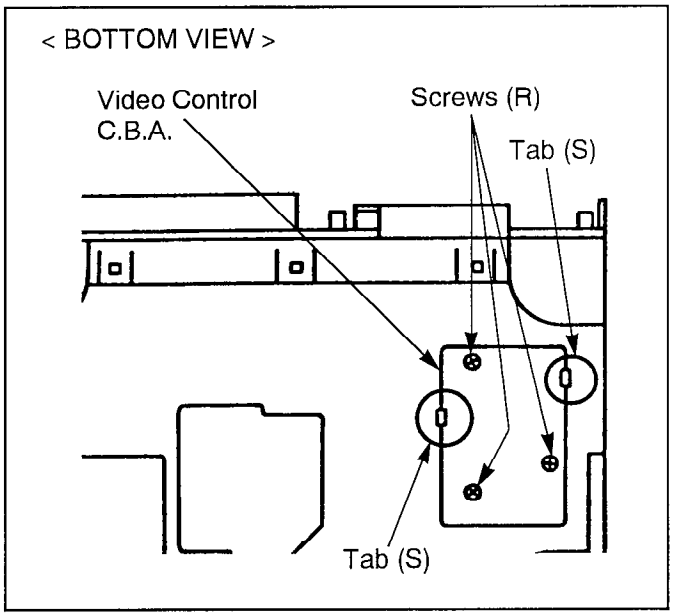


Fig. D12

2-2-12. Removal of the Mechanism Unit

1. Unscrew the 3 screws (T) on the Mechanism Unit.
2. Carefully pull out the Mechanism Unit from the frame.

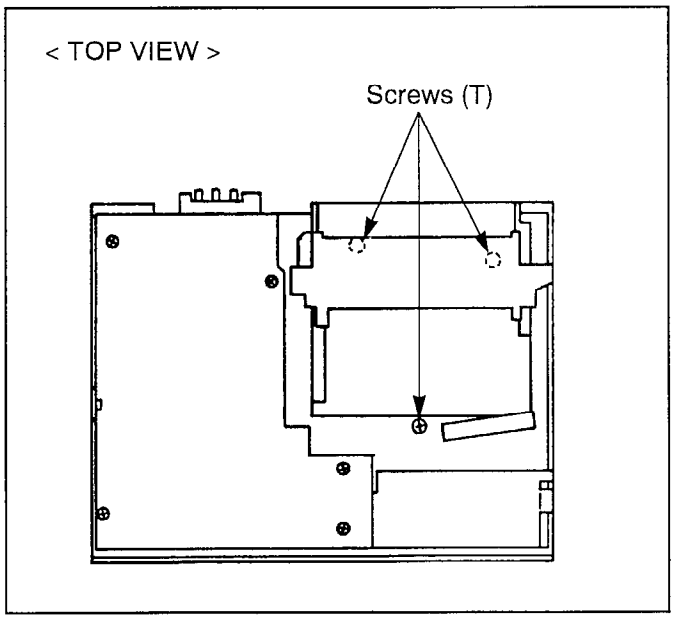


Fig. D13

2-2-13. Removal of the Jog & Shuttle C.B.A.

1. Unscrew the 3 screws (U) on the Front Panel.

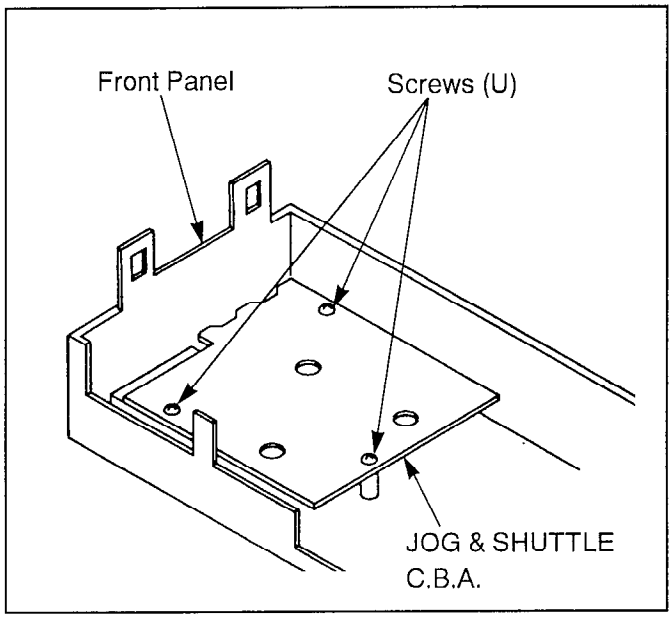


Fig. D14

2-2-14. Removal of the Front Jack C.B.A.

1. Unscrew a screw (V) on the frame.
2. Disconnect a connector (P6801).

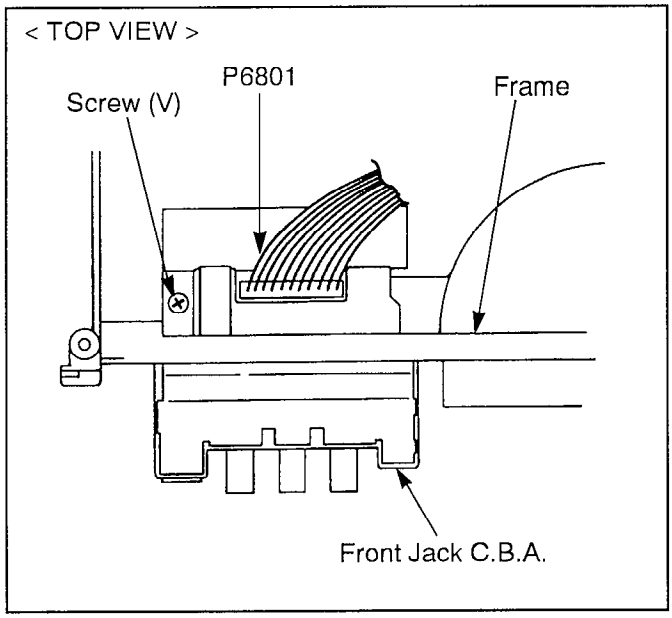


Fig. D15

SECTION 3. ELECTRICAL ADJUSTMENT PROCEDURES

3-1. TEST EQUIPMENT

To perform electrical adjustment the following equipment's are required.

1. V.T.V.M. (Vacuum Tube Volt Meter) or D.V.M. (Digital Volt Meter)
2. Dual-Trace Oscilloscope (More than 35MHz)
   Range : Voltage 0.005 ~ 50 V/div.
   : Frequency DC ~ 35 MHz
   : Probe 10 : 1
3. Video Sweep Generator
4. Sine Wave Generator
5. Video Signal Generator
6. Monitor TV
7. Alignment Tape (VFM8080HQFP)
8. S-VHS/VHS Blank Tape

3-2. How to Read the Adjustment Procedures

(example)

TP	VIDEO OUT
ADJ.	VR30006 (Y/C PACK C.B.A. : A-8)
MODE	REC ⇒ PLAY
INPUT	COLOR BAR
TAPE	VHS BLANK TAPE
M. EQ	OSCILLOSCOPE
SPEC	1.0 ± 0.05Vp-p

TP : Test Point
ADJ. : Variable Resistor
MODE : Mode of VTR when adjustment
INPUT : Input signal for adjustment
TAPE : Tape for adjustment
M.EQ : Measurement equipment
SPEC : Specification of adjustment

SERVO SECTION

3-3-1. PG SHIFTER ADJ.

TP	TP2001(MAIN C.B.A.: I-7) , VIDEO OUT
ADJ.	VR2001 (MAIN C.B.A. : D-3)
MODE	PLAY
INPUT	COLOR BAR
TAPE	VFM8080HQFP
M. EQ	OSCILLOSCOPE
SPEC	8.5 ± 1.0 H

1. Connect the oscilloscope CH 1 to video output connector and CH 2 to TP2001 (H. SW).
2. Adjust VR2001 as shown in Fig. E1.

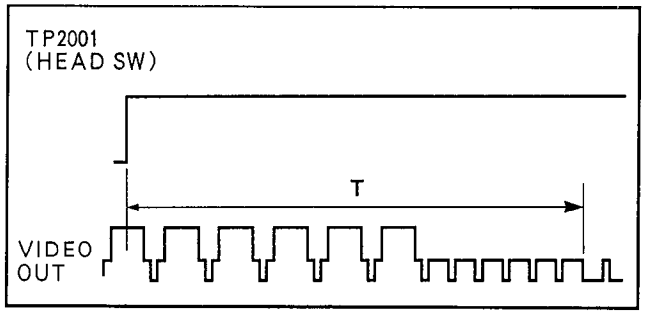


Fig. E1

3-3-2. REV SLOW TRACKING ADJ.

TP	VIDEO OUT
ADJ.	SP : VR2019 (MAIN C.B.A. : B-5), EP : VR2018 (MAIN C.B.A. : B-5)
MODE	REC ⇒ PLAY
INPUT	COLOR BAR
TAPE	BLANK TAPE
M. EQ	MONITOR TV
SPEC	NO APPEAR NOISE BAR

1. Connect the Monitor TV to video output connector.
2. Place the unit in the still mode on the self recorded (SP mode) portion.
3. Adjust VR2019 so that no noise bar appear on the top and bottom portion of the Monitor TV.
4. Place the unit in the REV Slow mode on the self recorded (EP mode) portion.
5. Adjust VR2018 so that noise bar is minimized.

VIDEO SECTION

3-3-3. EE Y LEVEL ADJ.

TP	VIDEO OUT
ADJ.	VR3601 (RF AMP C.B.A.: F-1)
MODE	STOP
INPUT	COLOR BAR
TAPE	– – – – –
M. EQ	OSCILLOSCOPE
SPEC	1.0 ± 0.05 Vp-p

Note :
Must be heat up more than 10 min. before perform this adjustment.

1. Connect the oscilloscope to video output connector.
2. Adjust VR3601 so that Y level is 1.0V ± 0.05Vp-p. (Refer to Fig. E2)

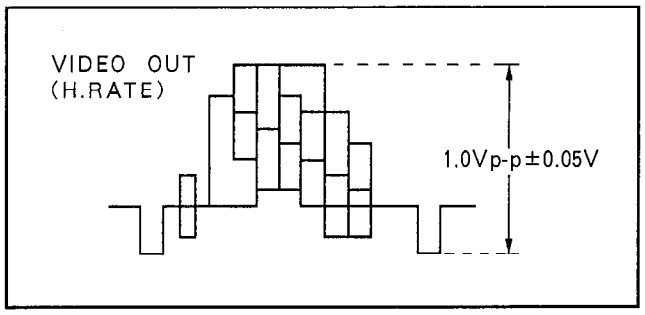


Fig. E2

3-3-4. S-VHS REC CURRENT ADJ.

TP	TP507 (HEAD AMP C.B.A. :B-2 (HOT)), TP508 (HEAD AMP C.B.A. : B-1 (GND))
ADJ.	REC Y : VR3006 (MAIN C.B.A, : F-4) , REC C : VR3003 (MAIN C.B.A. : G-4)
MODE	REC
INPUT	COLOR BAR
TAPE	S-VHS BLANK TAPE
M. EQ	OSCILLOSCOPE
SPEC	Y : 140 ± 5mVp-p C : 40 ± 2mVp-p

1. Connect the oscilloscope CH 1 to TP507 and GND to TP508.
2. Turn VR3006 to reduce luminance component.
3. Adjust VR3003 so that the cyan level is 40mV ± 5mVp-p. (Refer to Fig. E3)
3. Adjust VR3006 so that the sync level is 140mV ± 5mVp-p. (Refer to Fig. E4)

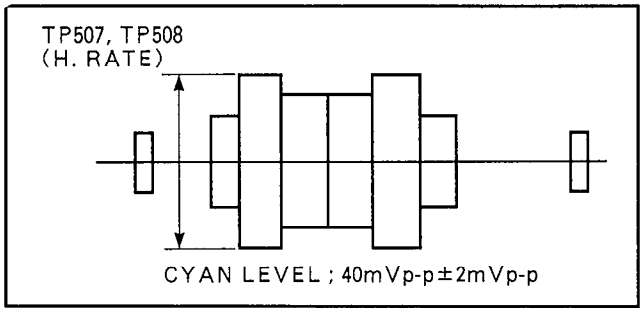


Fig. E3

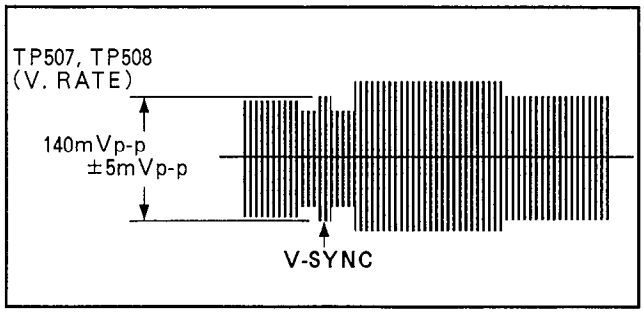


Fig. E4

3-3-5. VHS REC CURRENT ADJ.

TP	TP507 (HEAD AMP C.B.A. :B-2 (HOT)), TP508 (HEAD AMP C.B.A. : B-1 (GND))
ADJ.	VR3007 (MAIN C.B.A. : F-4)
MODE	REC
INPUT	COLOR BAR
TAPE	VHS BLANK TAPE
M. EQ	OSCILLOSCOPE
SPEC	140 ± 5mVp-p

1. Connect the oscilloscope CH 1 to TP507 and CH 2 to TP508.
2. Adjust VR3007 so that the sync level is 140mV ± 5mVp-p. (Refer to Fig. E5)

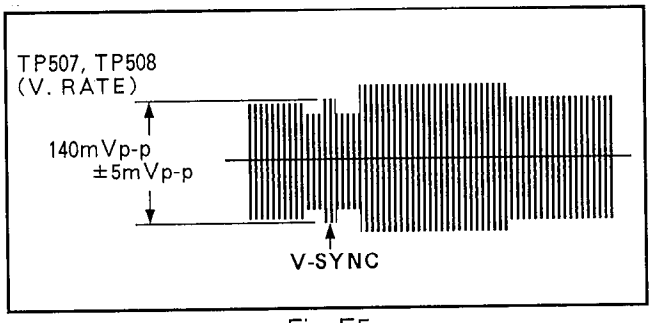


Fig. E5

3-3-6. VHS Y PB LEVEL ADJ.

TP	VIDEO OUT
ADJ.	VR30006 (Y/C PACK : A-8)
MODE	REC ⇒ PLAY
INPUT	COLOR BAR
TAPE	VHS BLANK TAPE
M. EQ	OSCILLOSCOPE
SPEC	1.0 ± 0.05Vp-p

1. Connect the oscilloscope to video output connector with 75 ohm terminated.
2. Adjust VR30006 so that Y level is 1.0V ± 0.05Vp-p. (Refer to Fig. E6)

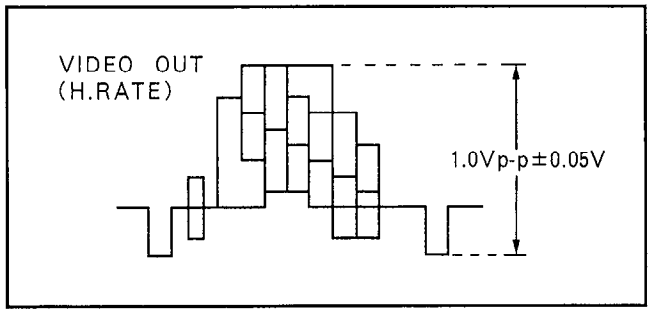


Fig. E6

3-3-7. S-VHS Y PB LEVEL ADJ.

TP	VIDEO OUT
ADJ.	VR30005 (Y/C PACK : A-7)
MODE	REC ⇒ PLAY
INPUT	COLOR BAR
TAPE	S-VHS BLANK TAPE
M. EQ	OSCILLOSCOPE
SPEC	1.0 ± 0.05Vp-p

1. Connect the oscilloscope to video output connector with 75 ohm terminated.
2. Adjust VR30005 so that Y level is 1.0V ± 0.05Vp-p. (Refer to Fig. E7)

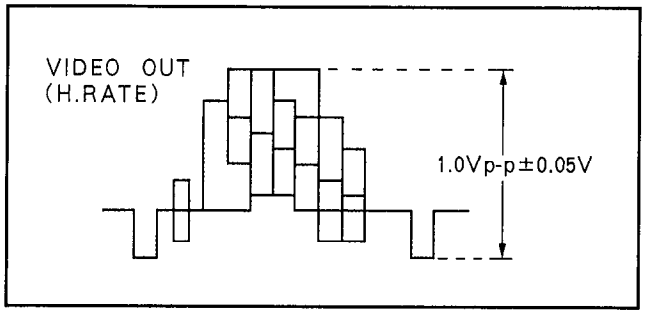


Fig. E7

3-3-8. COS EQ PEAK ADJ.

TP	CP3005 (MAIN C.B.A. : D-5)
ADJ.	VR3002 (MAIN C.B.A. : H-6)
MODE	STOP
INPUT	SWEEP SIGNAL (20mVp-p)
TAPE	S-VHS BLANK TAPE
M. EQ	OSCILLOSCOPE
SPEC	7.2 ± 0.2Vp-p

1. Connect the Service Circuit to CP3005 and supply the sweep signal.
2. Set the output of sweep generator to 20mVp-p with 7.2Hz marker.
3. Turn VR3001 to full counter-clockwise.
4. Adjust VR3002 so that 7.2Hz is maximized. (Refer to Fig. E9)

Note :
Must be perform the S-VHS Frequency Response Adjustment, after this adjustment.

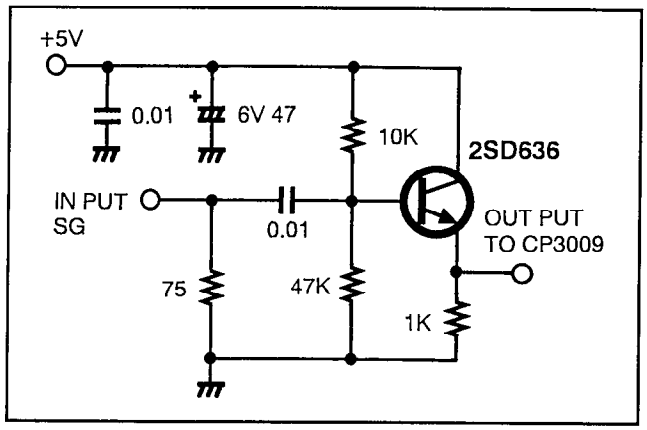


Fig. E8

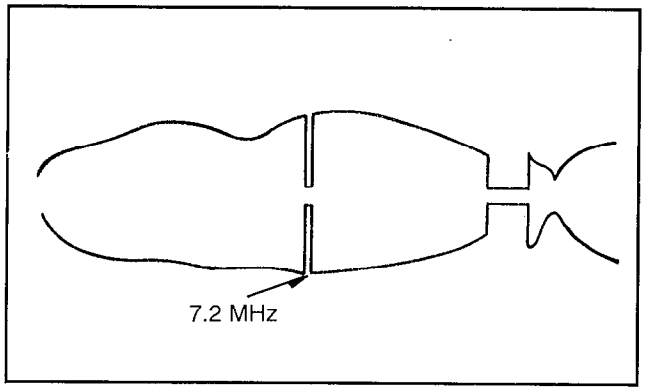


Fig. E9

3-3-9. S-VHS FREQUENCY RESPONSE ADJ.

TP	VIDEO OUT
ADJ.	VR3001 (MAIN C.B.A. : H-6)
MODE	REC ⇒ PLAY
INPUT	30% SWEEP SIGNAL
TAPE	S-VHS BLANK TAPE
M. EQ	OSCILLOSCOPE
SPEC	100KHz : 4MHz = 5 : $3.5^{+0}_{-0.5}$

1. Connect the oscilloscope to video output connector.
2. Playback the just recorded portion.
3. Adjust VR3001 so that the sweep signal is 100 KHz : 4MHz = 5 : $3.5^{+0}_{-0.5}$

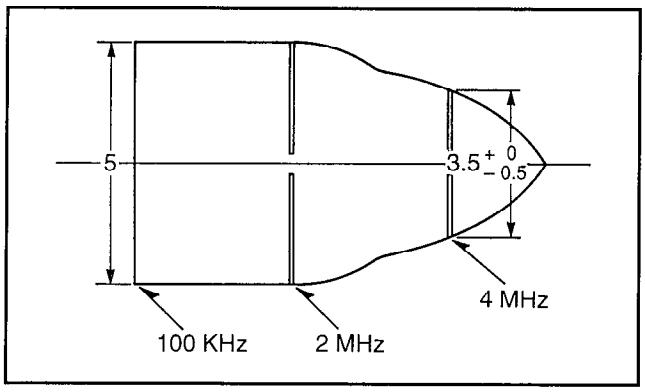


Fig. E10

AUDIO SECTION

3-3-10. EE LEVEL ADJ.

TP	AUDIO OUT
ADJ.	CH 1 : VR4804 (MAIN C.B.A : H-4) , CH 2 : VR4803 (MAIN C.B.A. : I-3)
MODE	STOP
INPUT	1 Hz, -10dB SINE WAVE
TAPE	– – – – –
M. EQ	V.T.V.M.
SPEC	-8.0 ± 0.5 dBV

1. Set the REC LEVEL VR is center position [5].
2. Adjust VR4804 so that CH 1 (L) EE level is -8.0 dBV ± 0.5 dBV and VR4803 so that CH 2 (R)EE level is -8.0 dBV ± 0.5 dBV.

3-3-11. LEVEL METER ADJ.

TP	AUDIO OUT
ADJ.	VR6501 (TIMER C.B.A, : C-2)
MODE	STOP
INPUT	1 KHz, -10dB
TAPE	– – – – –
M. EQ	FRONT PANEL LEVEL METER
SPEC	0 dB INDICATOR JUST LIGHT UP

1. Set the REC LEVEL VR is center position [5].
2. Adjust VR6501 so that 0 dB indicator just light up on the front panel level meter.

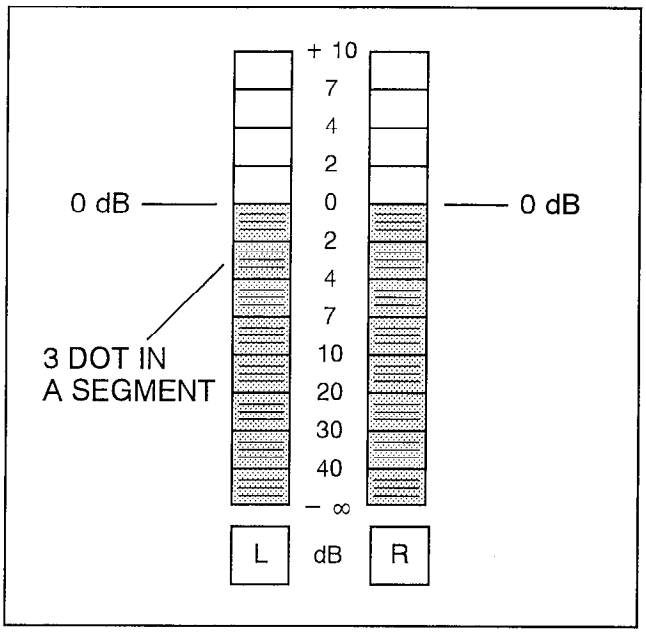


Fig. E11

3-3-12. NORMAL BIAS CURRENT ADJ.

TP	TP4801(MAIN C.B.A. : F-3 (HOT)), TP4802 (MAIN C.B.A. : F-3 (GND))
ADJ.	VR4802 (MAIN C.B.A. F-2)
MODE	REC
INPUT	– – – – –
TAPE	BLANK TAPE
M. EQ	V.T.V.M.
SPEC	3.0 ± 0.1 mVrms

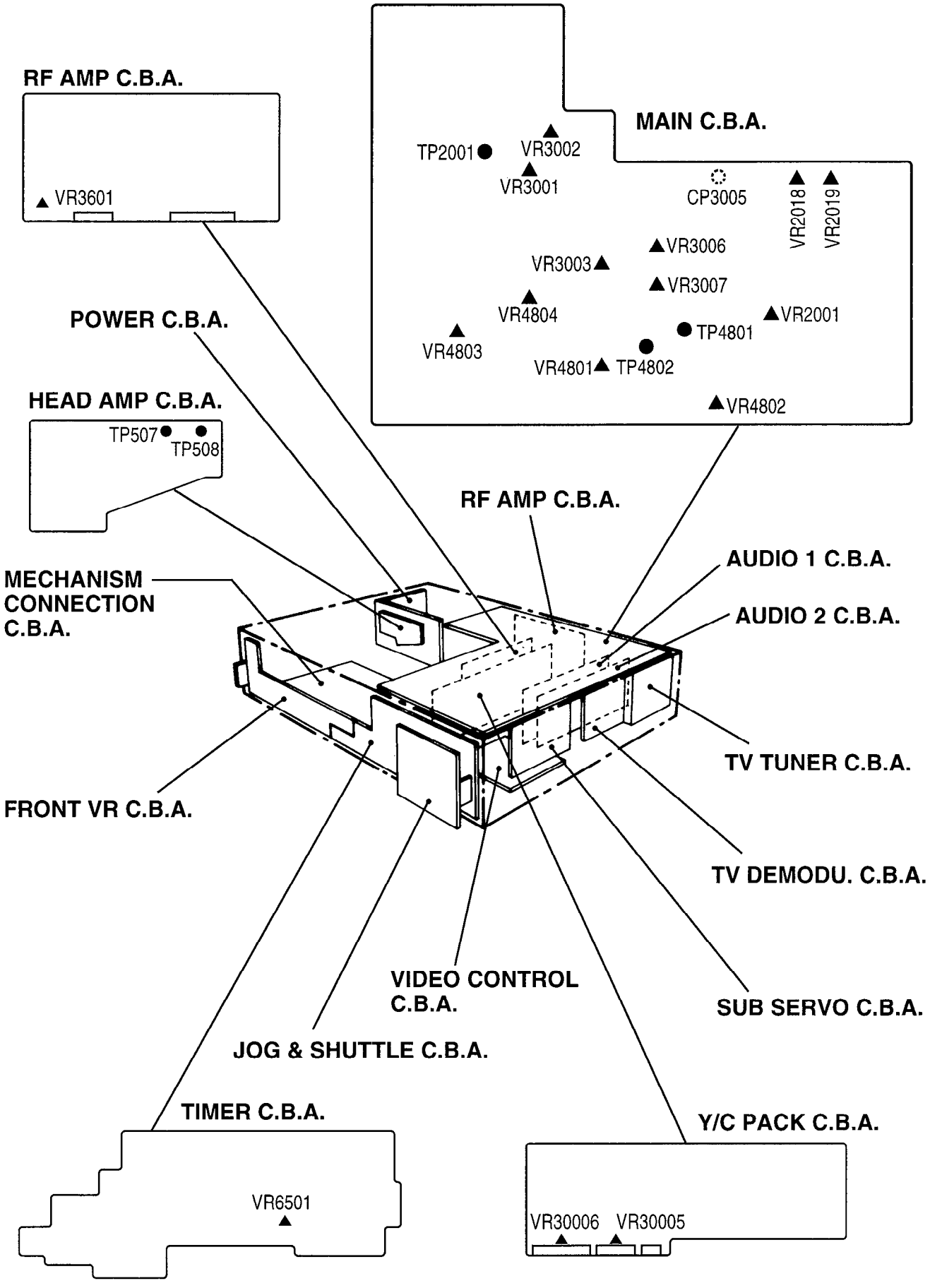
1. Connect the V.T.V.M. to TP4801 and TP4802.
2. Adjust VR4802 so that out put level is 3.0 ± 0.1 mVrms.

3-3-13. NORMAL PB LEVEL ADJ.

TP	AUDIO OUT
ADJ.	VR4801 (MAIN C.B.A. G-3)
MODE	REC ⇒ PLAY
INPUT	1 KHz, -10dB
TAPE	BLANK TAPE
M. EQ	V.T.V.M.
SPEC	-8.0 ± 2dB

1. Connect the V.T.V.M. to the audio output connector.
2. Playback the just recorded portion.
3. Adjust VR4801 so that output level is -8.0 ± 2dB.

CIRCUIT BOARD LAYOUT



SECTION 4. ABBREVIATIONS & BLOCK DIAGRAMS

4-1. ABBREVIATIONS

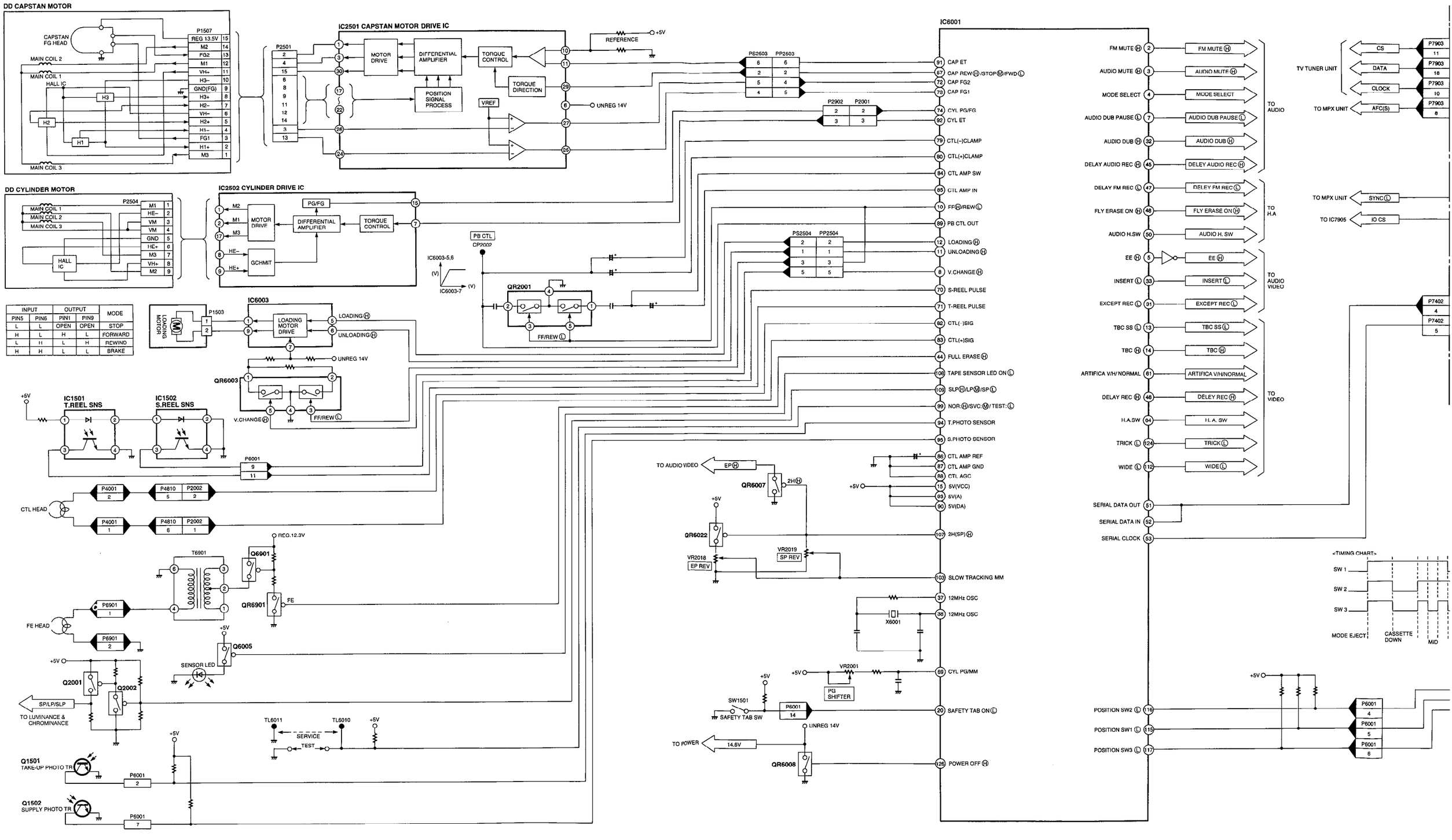
443NT [L]	4.43 NTSC Ⓛ	BIL. [H]	BILINGUAL Ⓗ
A. COMP	AUDIO COMPONENT SIGNAL	BIL/M1 [L]	BILINGUAL Ⓛ
A. COMPO	AUDIO COMPONENT SIGNAL	BS CLOCK	BS CLOCK
A. D.P [L]	AUDIO DUBBING PAUSE Ⓛ	BS DATA	BS DATA
A. D/L [L]	AUDIO DUBBING PAUSE Ⓛ	BS LCH IN	BS L CHANNEL INPUT
A. DEF [S]	AUDIO DEFEAT	BS MIX [H]	BS MIX Ⓗ
A.DEF [S] [L]	AUDIO DEFEAT	BS MON [H]	BS MONITOR Ⓗ
A. DUB P [L]	AUDIO DUBBING PAUSE Ⓛ	BS MONI [H]	BS MONITOR Ⓗ
A. DUB [H]	AUDIO DUBBING Ⓗ	BS RCH IN	BS R CHANNEL INPUT
A. ERASE	AUDIO ERASE	BS VIDEO	BS VIDEO SIGNAL
A. H. SW	AUDIO HEAD SWITCHING PULSE	BS VIDEO/BS1	BS VIDEO SIGNAL
A. HEAD [R]	AUDIO HEAD (REC)	BS [H]	BS Ⓗ
A. HEAD [W]	AUDIO HEAD (PLAY)	BS. LEVEL	BS LEVEL
A. IN [L]	AUDIO INPUT (L)	BS. M [H]	BS MONITOR Ⓗ
A. IN [R]	AUDIO INPUT (R)	BS/VTR [H]	BS/VTR Ⓗ
A. MUT [H]	AUDIO MUTE Ⓗ	BUS CLK	BUS CLOCK
A. MUTE [H]	AUDIO MUTE Ⓗ	BUS LSN	BUS LISTEN
A. OUT [L]	AUDIO OUTPUT (L)	BUS TLK	BUS TALK
A. OUT [R]	AUDIO OUTPUT (R)	BUZZER	BUZZER
A. RF OUT	AUDIO RF SIGNAL OUTPUT	CAP EC	CAPSTAN TORQUE CONTROL
A/VS/S. DATA	AV SW/SERIAL DATA	CAP M GND	CAPSTAN MOTOR GND
AC ONLINE	AC ONLINE	CAP. ET	CAPSTAN TORQUE CONTROL
AC. O/EE. H	AC ONLINE/EE Ⓗ	CAP. FG1	CAPSTAN FG1 PULSE
AFC S C	AFC S CURVE	CAP. FG2	CAPSTAN FG2 PULSE
AFC [S]	AFC S CURVE	CAS. SW	CASSETTE SW
AFC. DEF	AFC DEFEAT	CCN	PLAYBACK CONTROL SIGNAL (−)
ARFC OUT	AUDIO RF SIGNAL OUTPUT	CCP	PLAYBACK CONTROL SIGNAL (+)
ART. V	ARTIFICIAL VERTICAL SYNC SIGNAL	CHM	CONTROL SIGNAL (+)
ART. V. MM	ARTIFICIAL VERTICAL SYNC SIGNAL MONO MULTI	CHP	CONTROL SIGNAL (−)
		CINEM [L]	CINEMA Ⓛ
ART. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL Ⓗ / NORMAL	CINEMA [L]	CINEMA Ⓛ
		CINEMA/MIX	CINEMA/MIX
AT. V/H/N	ARTIFICIAL VERTICAL SYNC SIGNAL	CKL	RATCH LOCK
ATSW/TEST/NOR/SE	TEST/NORMAL/SERVICE	CKS	SHIFT LOCK
AUDIO IN [L]	AUDIO INPUT (L)	CL	CLOCK
AUDIO IN [R]	AUDIO INPUT (R)	CLK	CLOCK
AUDIO OUT [L]	AUDIO OUTPUT (L)	CLK (C.G)	CLOCK
AUDIO OUT [R]	AUDIO OUTPUT (R)	CLOCK. IN	CLOCK INPUT
AUDIO SELECT [H]	AUDIO SELECT Ⓗ	CLP	CLAMP
AUDIO. L	AUDIO (L)	COL/B/W/NOR	COLOUR/BLACK & WHITE/NORMAL
AUDIO. R	AUDIO (R)	COLOR [H]	COLOUR Ⓗ
AV CNT	AV CONTROL	CONV	CONVERTOR
AV CTL	AV CONTROL	CS	CHIP SELECT
AV CTL/S. CLK	AV CONTROL/SERIAL CLOCK	CTL GND	CONTROL GND
AV. C.M.	AV CONTROL MODE	CTL HEAD [+]	CONTROL HEAD (+)
AVCNT/METER. R	AV CONTROL/LEVEL METER(R)	CTL HEAD [−]	CONTROL HEAD (−)
AVSW/METER. L	AV SW/LEVEL METER (L)	CTL[+]	CONTROL HEAD (+)
B MODE. H	B MODE Ⓗ	CTL[−]	CONTROL HEAD (−)
B.G.P	BURST GATE PULSE	CUE BIAS	CUE BIAS
BACKUP 5V	BACK UP 5V	CURRENT LIM	CURRENT LIMMITER
BAND. U.E.	BAND U	CYL ET	CYLINDER TORQUE CONTROL
BANDVL. D	BAND VL	CYL GND	CYLINDER GND
BI/MI [L]	BILINGUAL/MIX Ⓛ	D.F.M. REC [H]	DELAYED FM RECORDING Ⓗ
BIL	BILINGUAL	D. FM REC [L]	DELAYED FM RECORDING Ⓛ
BIL [L]	BILINGUAL Ⓛ	D. GND	DIGITAL GND

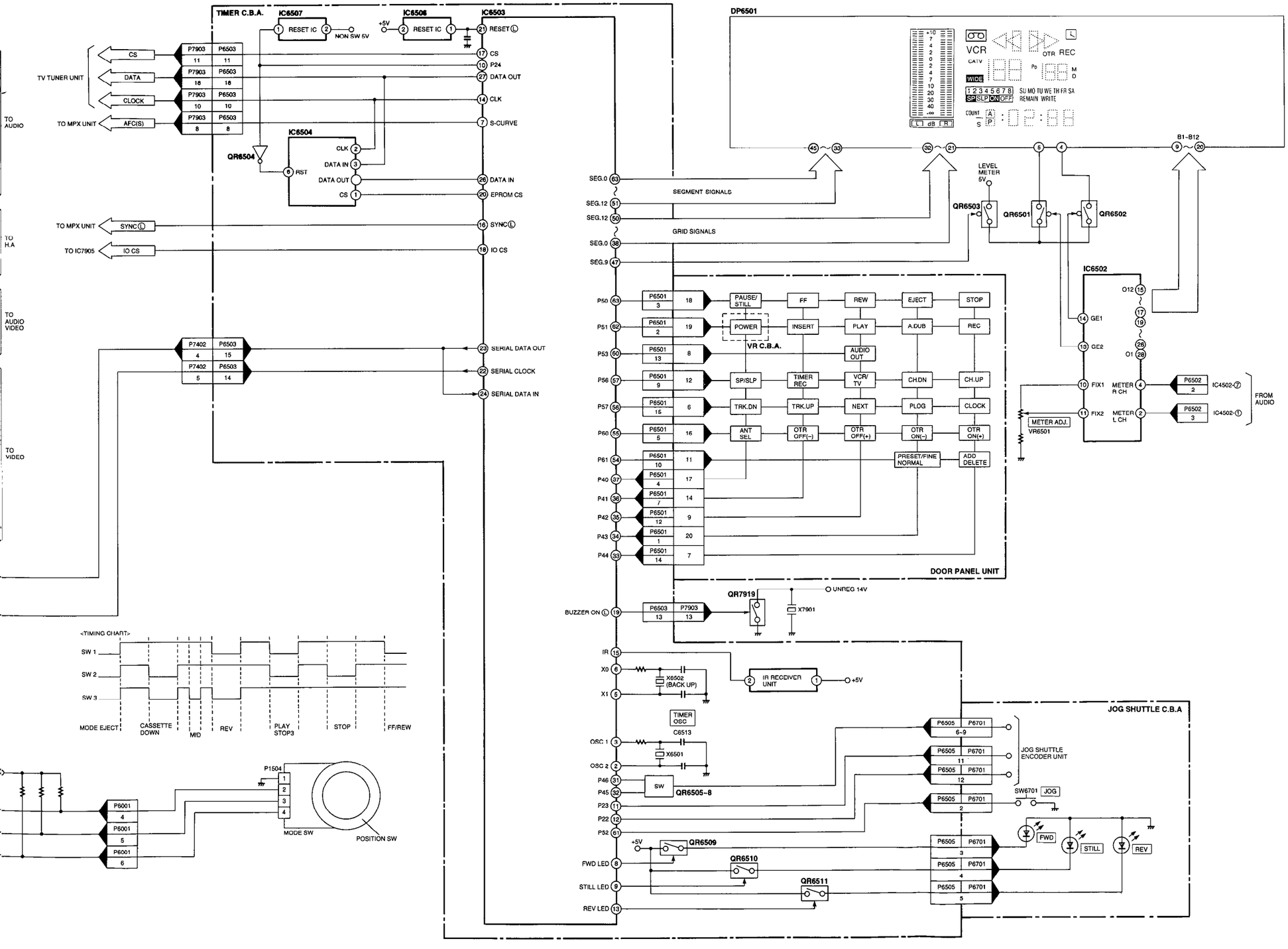
D. REC [H]	DELAYED RECORDING Ⓗ	H.SYNC	HORIZONTAL SYNC
D4/S. LED	D4/STILL LED	H. AMP. SW	HEAD AMP SW PULSE
D4/STILLED	D4/STILL LED	H. P <R>	HEAD PHONE (R)
DAC [CLK]	TUNER DAC (CLOCK)	H. P <L>	HEAD PHONE (L)
DAC/FSCS	TUNER DAC/FS CHIP SELECT	H. P GND	HEAD PHONE GND
DAREC [H]	DELAYED AUDIO RECORDING Ⓗ	H. P OUT [L]	HEAD PHONE OUTPUT (L)
DATA	DATA	H. P OUT [R]	HEAD PHONE OUTPUT (R)
DECODER [L]	DECODER (L)	H. SW	HEAD SW PULSE
DECODER [R]	DECODER (R)	HEDA PHONE [L]	HEAD PHONE (L)
DEW	DEW	HEAD PHONE [R]	HEAD PHONE (R)
DEW SNS	DEW SENSOR	HEAD SW	HEAD SW
DFMRE [H]	DELAYED FM AUDIO RECORDING Ⓗ	HEATER [+]	HEATER (+)
E. REC 5V	EXCEPT RECORDING 5V	HEATER [−]	HEATER (−)
EC	ERROR TORQUE CONTROL	HSS	HORIZONTAL SYNC SIGNAL
ECR	ERROR TORQUE CONTROL	HTR [+]	HEATER (+)
	REFERENCE VOLTAGE	HTR [−]	HEATER (−)
EDT TRIG [L]	EDIT TRIGGER Ⓛ	I RFE	REFERENCE CURRENT
EDIT [H]	EDIT Ⓗ	ICL	CONTROL AGC CIRCUIT
EE [H]	EE Ⓗ	IF	INTERMEDIATE FREQUENCY
EE [H]/INS [M]	EE Ⓗ /INSERT Ⓜ	IN SELA 1	INPUT SELECT A1 POSITION
EE. VV. TR	EE/VV/TRICK PLAY	IN SELA 2	INPUT SELECT A2 POSITION
EJECT. PO	EJECT POSITION	IN SELA 3	INPUT SELECT A3 POSITION
EJECT/VDET	EJECT/REVERSE SLOW LOCK	INS L/R [L]	INSERT Lch/Rch Ⓛ
ENV. SEL	ENVELOPE SELECT	INS. [H]	INSERT Ⓗ
ENVE. OUT	ENVELOPE OUTPUT	INSEL A1	INPUT SELECT A1 POSITION
ENVE. SEL	ENVELOPE SELECT	INSEL A2	INPUT SELECT A2 POSITION
ENV SELECT	ENVELOPE SELECT	INSERT	INSERT
EP [H]	LP Ⓗ	INSERT [H]	INSERT Ⓗ
EP/LP [H]	LP Ⓗ	IO CS	INPUT/OUTPUT CHIP SELECT
EP/ LP/SP	LP/SP	JOG1	JOG1
EP/SS [H]	LP/SLOW/STILL/STOP Ⓗ	JOG S3 LED/FOWRD	JOG LED/FORWARD LED
EPROMCS	EPROM CHIP SELECT	JOG/F. LED	JOG LED/FORWARD LED
EX. REC 5V	EXCEPT RECORDING 5V	JSB [H]	JSB Ⓗ
FF/REW [L]	FAST FORWARD/REWIND Ⓛ	JST. CLCK	JUST CLOCK
FG1 IN	FG1 PULSE INPUT	JST. CLK	JUST CLOCK
FG2 IN	FG2 PULSE INPUT	JST. CLOCK	JUST CLOCK
FILTER ADJ.	FILTER ADJUSTMENT	L. OUT	Lch OUTPUT
FLY ERASE [H]	FLYING ERASE HEAD ON Ⓗ	L. CH [H]	Lch Ⓗ
FLY ON [H]	FLYING ERASE HEAD ON Ⓗ	L. CH [L]	Lch Ⓛ
FLY. E [H]	FLYING ERASE HEAD ON Ⓗ	LED (MAIN)	LED (MAIN)
FM MUT [H]	FM AUDIO MUTE Ⓗ	LED (STEREO)	LED (STEREO)
FM MUTE [H]	FM AUDIO MUTE Ⓗ	LED (SUB)	LED (SUB)
FM OUT [L]	FM OUTPUT (L)	LED CKL	LED SERIAL CLOCK
FM OUT [R]	FM OUTPUT (R)	LED CKS	LED SERIAL CLOCK
FM PACK OUT [L]	FM PACK OUTPUT (L)	LED DATA	LED SERIAL DATA
FM PACK OUT [R]	FM PACK OUTPUT (R)	LINE IN 1 [L]	LINE INPUT 1 (L)
FM/BS SEL [L]	FM/BS SELECT (L)	LINE IN 1 [R]	LINE INPUT 1 (R)
FM/BS SEL [R]	FM/BS SELECT (R)	LINE IN 2 [L]	LINE INPUT 2 (L)
FS. CLK	FS CLOCK	LINE IN 2 [R]	LINE INPUT 2 (R)
FUL. E [H]	FULL ERASE HEAD ON Ⓗ	LINE IN V	LINE INPUT VIDEO
FULL. E [H]	FULL ERASE HEAD ON Ⓗ	LINE IN [L]	LINE INPUT (L)
FULL. E. 12V	FULL ERASE 12V	LINE IN [R]	LINE INPUT (R)
GND [A]	GND (ANALOGUE)	LINE OUT [L]	LINE OUTPUT (L)
GND [TU]	GND (TUNER)	LINE OUT [R]	LINE OUTPUT (R)
GND/N. SW. 12V	GND/NON SW 12V	LP [H]	LP Ⓗ

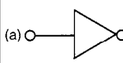
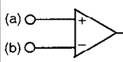
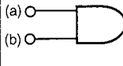
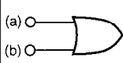
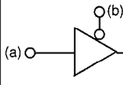
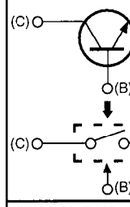
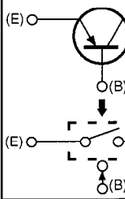
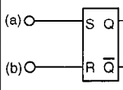
LPTRI [L]	LP TRICK PLAY Ⓛ	P. OFF [L]	POWER OFF Ⓛ
Lch/A. DUB	Lch/AUDIO DUBBING	PAL [H]	PAL Ⓗ
M GND	MOTOR GND	PAL [L]/NTSC [H]	PAL Ⓛ /NTSC Ⓗ
M REG	MOTOR REGULATOR	PB ADJ. OUT	PLAYBACK ADJUST OUTPUT
MAIN OUT	MAIN OUTPUT	PB OUT	PLAYBACK OUTPUT
MAIN [L]	MAIN Ⓛ	PB. H	PLAYBACK Ⓗ
MAIN/MONO	MAIN/MONAURAL	PFG	PG/FG
MAX IN	MAXIMUM INPUT	PHOTSN + B	PHOTO SENSOR + B
MES [H]	MESECAM Ⓗ	PICT. CNT	PICTURE CONTROL
MESE [H]	MESECAM Ⓗ	PLAY LED/RVS LED	PLAY LED/REVERSE LED
MESE [L]	MESECAM Ⓛ	PLAY. PO	PLAY POSITION
METER 5V	LEVEL METER 5V	PLAY/R.LED	PLAY LED/REVERSE LED
METER [L]	LEVEL METER (L)	PLY/DEW	PLAY/DEW Ⓗ
METER [R]	LEVEL METER (R)	POWER OFF [L]	POWER OFF Ⓛ
METER. L/AVS	LEVEL METER (L)	PREROLL [H]	PREROLL Ⓗ
METER. R/AVC	LEVEL METER (R)	PWRFAIL	POWER FAILURE DETECT
MI/BI [L]	MIX Ⓗ /BILINGUAL	R. CH [H]	Rch Ⓗ
MIC GND	MIC GND	R. CH [L]	Rch Ⓛ
MIC IN	MIC INPUT	R. ST	RESET
MIC IN [L]	MIC INPUT (L)	R/S/F	REVERSE Ⓗ /STOP Ⓜ /FORWARD Ⓛ
MIC IN [R]	MIC INPUT (R)	RCH [H]	Rch Ⓗ
MIC [H]	MIC Ⓗ	REC 12V	RECORDING 12V
MIX [H]	MIX Ⓗ	REC CHROMA	RECORDING CHROMINANCE SIGNAL
MIX [H]/CINEMA [L]	MIX Ⓗ /CINEMA SOUND Ⓛ	REC H	RECORDING Ⓗ
MIX/ CINE	MIX Ⓗ /CINEMA SOUND Ⓛ	REC IN	RECORDING INPUT
MIX/CINEMA [L]	MIX Ⓗ /CINEMA SOUND Ⓛ	REC OUT [L]	RECORDING OUTPUT Ⓛ
MN. H/M. L	MONAURAL Ⓗ /MAIN Ⓛ	REC START	RECORDING START
MN. H/MAI. L	MONAURAL Ⓗ /MAIN Ⓛ	REC VR [C]	RECORDING VOLUME (COMMON)
MN2/MES. L	MONAURAL 2/MESECAM Ⓛ	REC VR [L]	RECORDING VOLUME (L)
MODE SEL	AUDIO MODE SELECT	REC VR [R]	RECORDING VOLUME (R)
MODE SW	AUDIO MODE SW	REC Y	RECORDING LUMINANCE SIGNAL
MODE. S. IN	AUDIO MODE SELECT INPUT	REC [H]	RECORDING Ⓗ
MODE. S. OUT	AUDIO MODE SELECT OUTPUT	REC. C	RECORDING CHROMINANCE SIGNAL
MONO [H]	MONAURAL Ⓗ	REC. Y	RECORDING LUMINANCE SIGNAL
MONO [H]/MAIN [L]	MONAURAL Ⓗ /MAIN Ⓛ	REC/EE CTL	RECORDING/EE CONTROL
MONO2 [L]	MONAURAL 2 Ⓛ	REEL-T	REEL PULSE(TAKE-UP)
MONO2/MESE[FM(L)]	MONAURAL 2/MESECAM(FM Ⓛ)	REEL-S	REEL PULSE (SUPPLY)
MOTOR GND	MOTOR GND	REGULATOR FILTER	REGULATOR FILTER
MUTE	MUTE	RESET	RESET
N. A. REC [L]	NORMAL AUDIO RECORDING Ⓛ	REV M F/R	REVIEW MOTOR FORWARD/REVERSE
N. SW 12V	NON SW 12V		
N. SW. 5. DET	NON SW 5V DETECT	REV M V1	REVIEW MOTOR V1
NICAM	NICAM	REV M V2	REVIEW MOTOR V2
NICAM [L]	NICAM Ⓛ	REV MOTOR F/R	REVIEW MOTOR FORWARD/REVERSE
NOL [H]	PAL Ⓗ /4.43 NTSC Ⓜ /3.58 NTSC Ⓛ		
NOR/SOFT [H]	NORMAL/SOFT TAPE PLAY Ⓗ	REV MOTOR V1	REVIEW MOTOR V1
NORMAL [H]	NORMAL Ⓗ	REV MOTOR V2	REVIEW MOTOR V2
NR BIAS	NR BIAS	REV MOTOR [+]	REVIEW MOTOR (+)
NTSC [L]	NTSC Ⓛ	REV MOTOR [−]	REVIEW MOTOR (−)
OCH	CONTROL AGC CIRCUIT	REV. M. GND	REVIEW MOTOR GND
OUT	OUTPUT	RF.CHROMA	RF CHROMINANCE SIGNAL
P-OFF [H]	POWER OFF Ⓗ	RF OUT	RF OUTPUT
P-OFF [L]	POWER OFF Ⓛ	RF Y	RF LUMINANCE SIGNAL
P. FAIL	POWER FAILURE DETECT	RF. Y. IN	RF LUMINANCE SIGNAL INPUT
P. OFF [H]	POWER OFF Ⓗ	RF. Y. OUT	RF LUMINANCE SIGNAL OUTPUT

ROTAR. SW	ROTARY SW	T. BUSCLK	TIMER BUS CLOCK
ROTARY	ROTARY SW	T. BUSLSN	TIMER BUS LISTEN
RST	RESET	T. BUSTLK	TIMER BUS TALK
RST [L]	RESET Ⓛ	T. END [L]	TAPE END Ⓛ
Rch/INST	Rch/INSERT	T. PHOTO	TAKE-UP PHOTO TRANSISTOR
S IN	SERIAL DATA INPUT	TAPE END [L]	TAPE END Ⓛ
S OUT	SERIAL DATA OUTPUT	TAPE END [L]/CAM	TAPE END Ⓛ /CAMERA PAUSE
S-PHOTO	SUPPLY PHOTO TRANSISTOR	TEST	TEST MODE
S-RL. PLS	SUPPLY REEL PULSE	TPZ	TRAPEZOIDAL WAVE CIRCUIT
S. CLK	SERIAL CLOCK	TRIC [L]	TRICK PLAY Ⓛ
S. CLK/AV	SERIAL CLOCK/AV	TRICK [L]	TRICK PLAY Ⓛ
S. DATA	SERIAL DATA	TRK. ENV	AUDIO TRACKING ENVEL OPE DETECT
S. DATA/A	SERIAL DATA / AUDIO	TU. AUDIO	TUNER AUDIO
S. PHOTO	SUPPLY PHOTO TRANSISTOR	TU. GND	TUNER GND
S.TAB [L]	SAFETY TAB SW ON Ⓛ	TU. V. IN	TUNER VIDEO SIGNAL INPUT
S/P/N	SECAM/PAL/NTSC	TU. VIDEO	TUNER VIDEO
SC IN	SERIAL CLOCK INPUT	TUN NOR IN	TUNER NORMAL INPUT
SC OUT	SERIAL CLOCK OUTPUT	TUN R	TUNER AUDIO (R)
SCK SELECT	SERIAL CLOCK SELECT	TUN. AUDIO IN	TUNER AUDIO INPUT
SEL OUT [L]	SELECT OUTPUT (L)	TUNER 12V	TUNER 12V
SEL OUT [R]	SELECT OUTPUT (R)	TUNER L	TUNER AUDIO (L)
SHUTTLE 1	SHUTTLE 1	TUNER V IN	TUNER VIDEO SIGNAL INPUT
SIF	SOUND INTERMEDIATE FREQUENCY	TUNER [L]	TUNER AUDIO (L)
SLMUT [H]	INPUT SELECT MUTE Ⓗ	TUNER [N]	TUNER AUDIO (NORMAL)
SLNID [+]	SOLENOID (+)	TUNER [R]	TUNER AUDIO (R)
SLNID [−]	SOLENOID (−)	TUNER. 12	TUNER 12V
SLW TR. MM	SLOW TRACKING MONO MULTI	TUOFF [H]	TUNER OFF Ⓗ
SLW TR. REF	SLOW TRACKING REFERENCE VOLTAGE	TV. AUDIO	TV AUDIO
		TV/VTR	TV/VTR
SNS. GND	SENSOR GND	TXTON [L]	TEXT ON Ⓛ
SOFT [H]	SOFT TAPE PLAY Ⓗ	U. REG45V	UNREGULATOR 45V
SOFT [H]/NORMAL	SOFT TAPE PLAY Ⓗ /NORMAL Ⓗ	UNREG	UNREGULATOR
SOLENOID ON [L]	SOLENOID ON Ⓛ	UNREG 19V	UNREGULATOR 19V
SP [H]	SP Ⓗ	V. REF	REFERENCE VOLTAGE
SP/L/SLP	SP/LP	V. EE [H]	VIDEO EE Ⓗ
SSS [L]	SLOW/STILL/STOP Ⓛ	V. EE [L]	VIDEO EE Ⓛ
STEREO LED	STEREO LED	VCO REF	RERERENCE OSCILLATER
STEREO [H]	STEREO Ⓗ	VD. IN	VIDEO SIGNAL INPUT
STEREO [L]	STEREO Ⓛ	VD. OUT	VIDEO SIGNAL OUTPUT
STOP. PO	STOP POSITION	VIDEO EE [L]	VIDEO EE Ⓛ
STOP/5V	STOP POSITION/5V	VIDEO IN	VIDEO SIGNAL INPUT
STOP1/TAPE SEL	STOP1 POSITION/TAPE SELECT	VIDEO OUT	VIDEO SIGNAL OUTPUT
STOP1/PAL : ST	STOP 1 POSITION/PAL	VM	MOTOR VOLTAGE
STOP2. PO	STOP 2 POSITION	VM DOWN [L]	MOTOR VOLTAGE DOWN Ⓛ
STOP2 / S-TAB	STOP POSITION/SAFETY TAB SW	VSS	VERTICAL SYNC SIGNAL
STREO [H]	STEREO Ⓗ	VTR [H]	VTR Ⓗ
SUB BIAS	SUB BIAS	VTR. 12V	VTR 12V
SUB. SW	SUB SW	X IN	OSCILLATOR INPUT
SVHS CAS [L]	S-VHS CASSETTE Ⓛ	X OUT	OSCILLATOR OUTPUT
SW. 5. DET	SW 5V DETECT		
SYNC [L]	SYNC Ⓛ		
SYSCON 5V	SYSTEM CONTROL 5V		
SYSTEM	SYSTEM SW		
T-PHOTO	TAKE-UP PHOTO TRANSISTOR		
T-RL. PLS	TAKE-UP REEL PULSE		

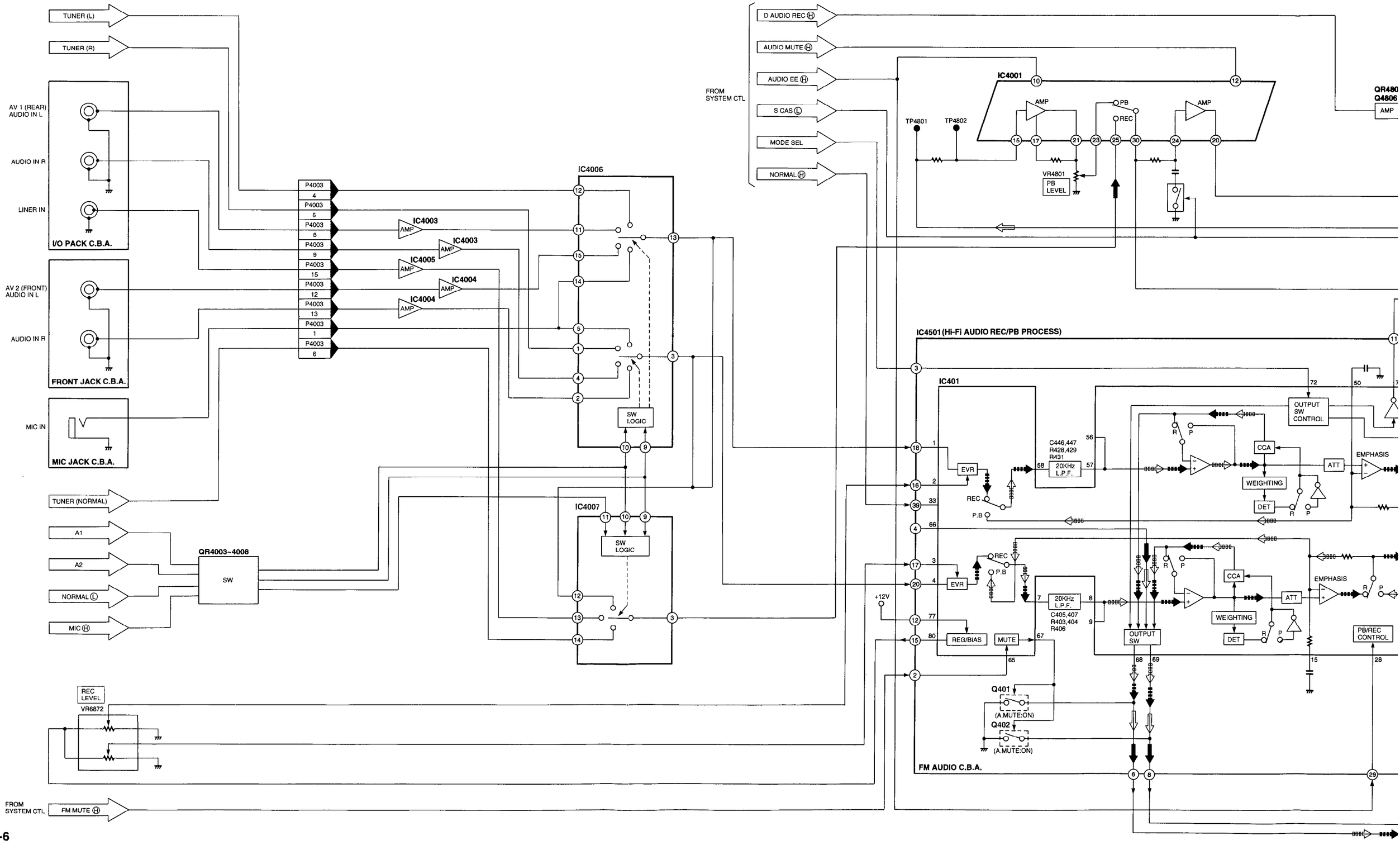
4-2. SYSTEM CONTROL & SERVO SECTION BLOCK DIAGRAM

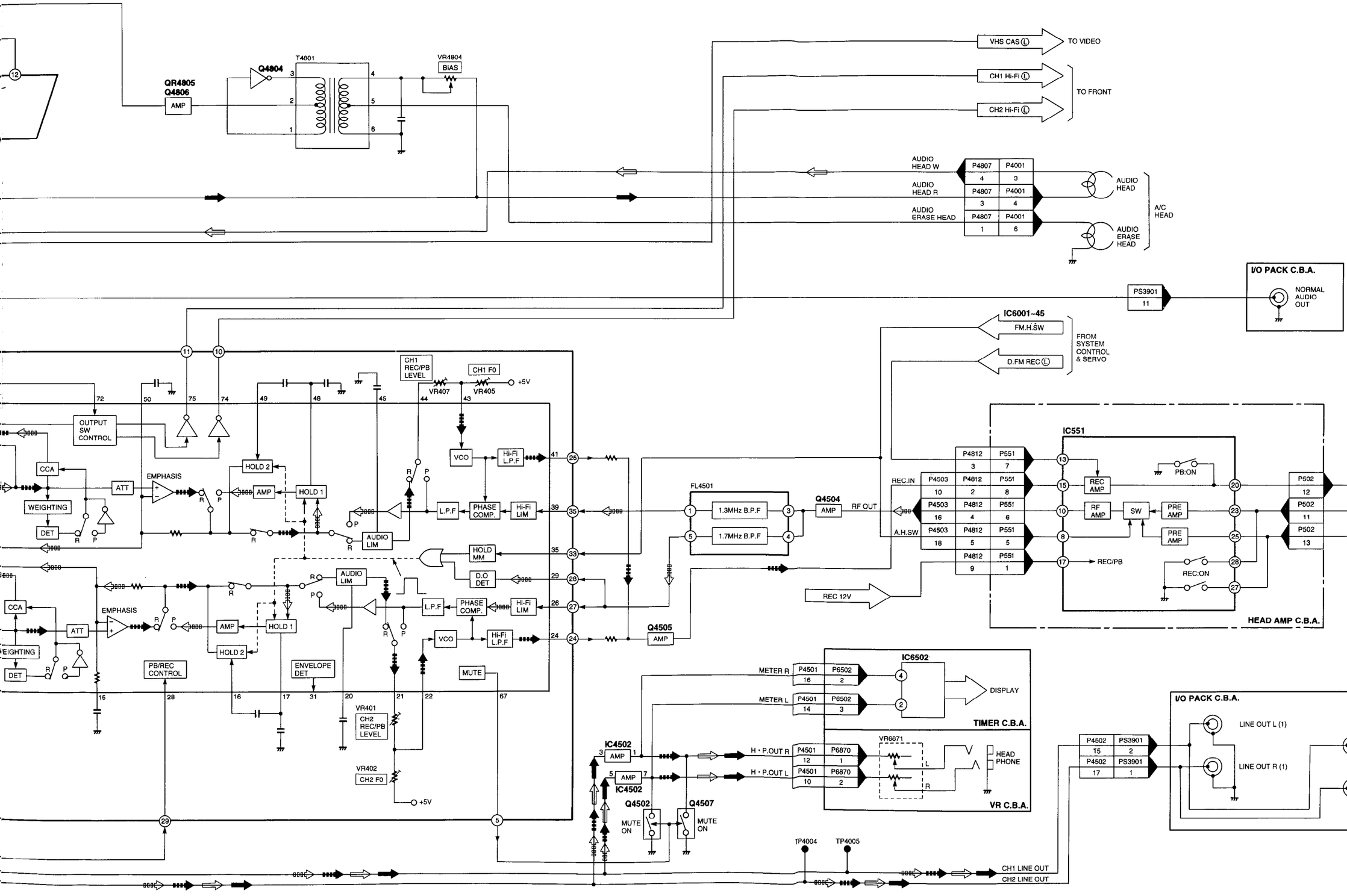




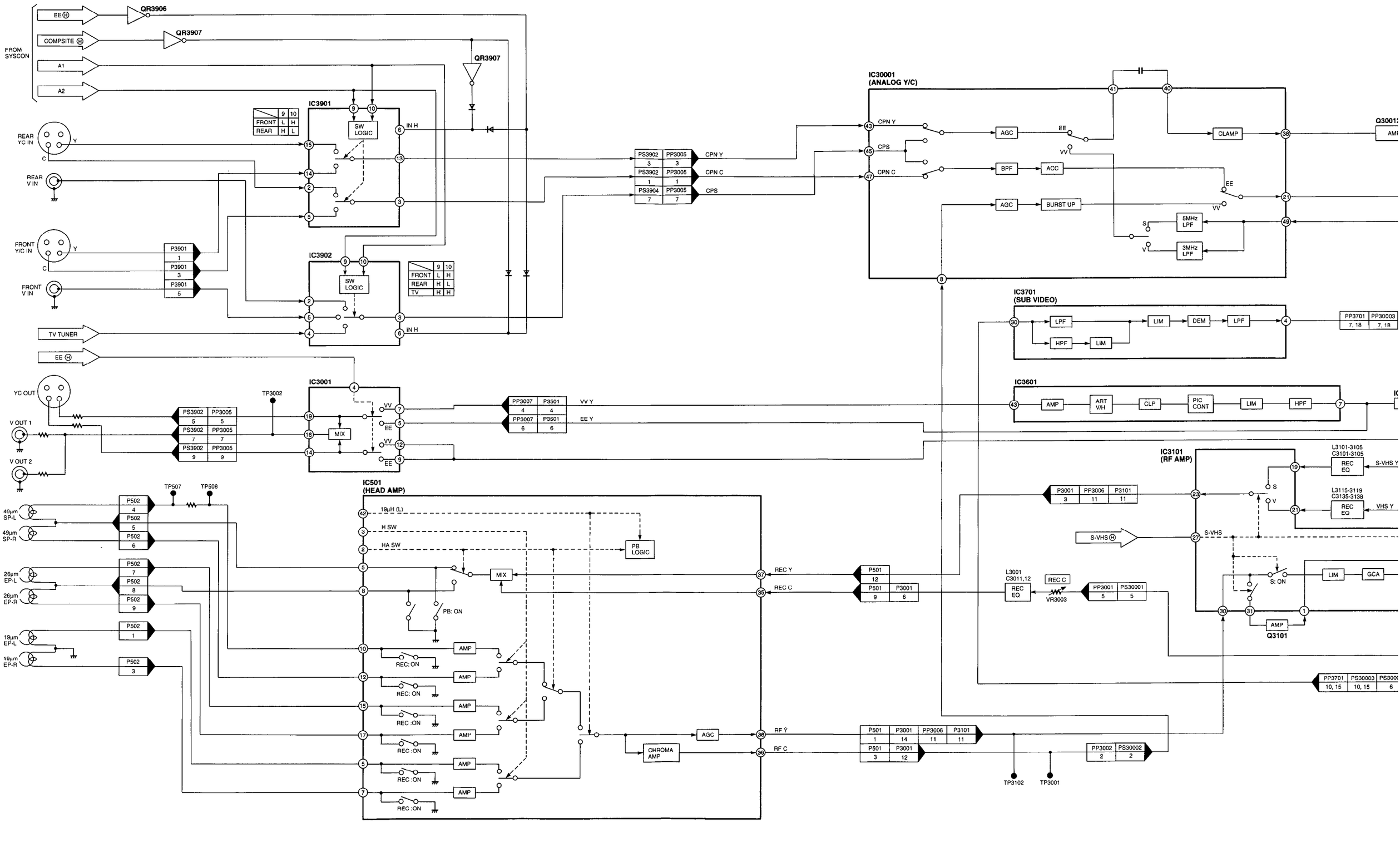
SYMBOL	TRUTH VALUE TABLE
INVERTER 	IN (a) H L OUT (b) L H
COMPARTOR 	IN (a) (a)>(b) (a)<(b) (b) OUT (c) H L
AND CIRCUIT 	IN (a) L L H H (b) L H L H OUT (c) L L L H
OR CIRCUIT 	IN (a) L L H H (b) L H L H OUT (c) L H H H
THREE STATES BUFFER 	IN (a) H L H or L (b) L L H OUT (c) H L ※ ※ High impedance
TR. SW (NPN TYPE) 	BASE H L TR. SW ON OFF
TR. SW (PNP TYPE) 	BASE H L TR. SW OFF ON
R-S TYPE FLIP-FLOP 	IN (a) L L ⊓ (b) L ⊓ L OUT (c) ※ L H (d) ◆ H L ※ Initial condition is maintained. ◆ Initial condition is reversed.

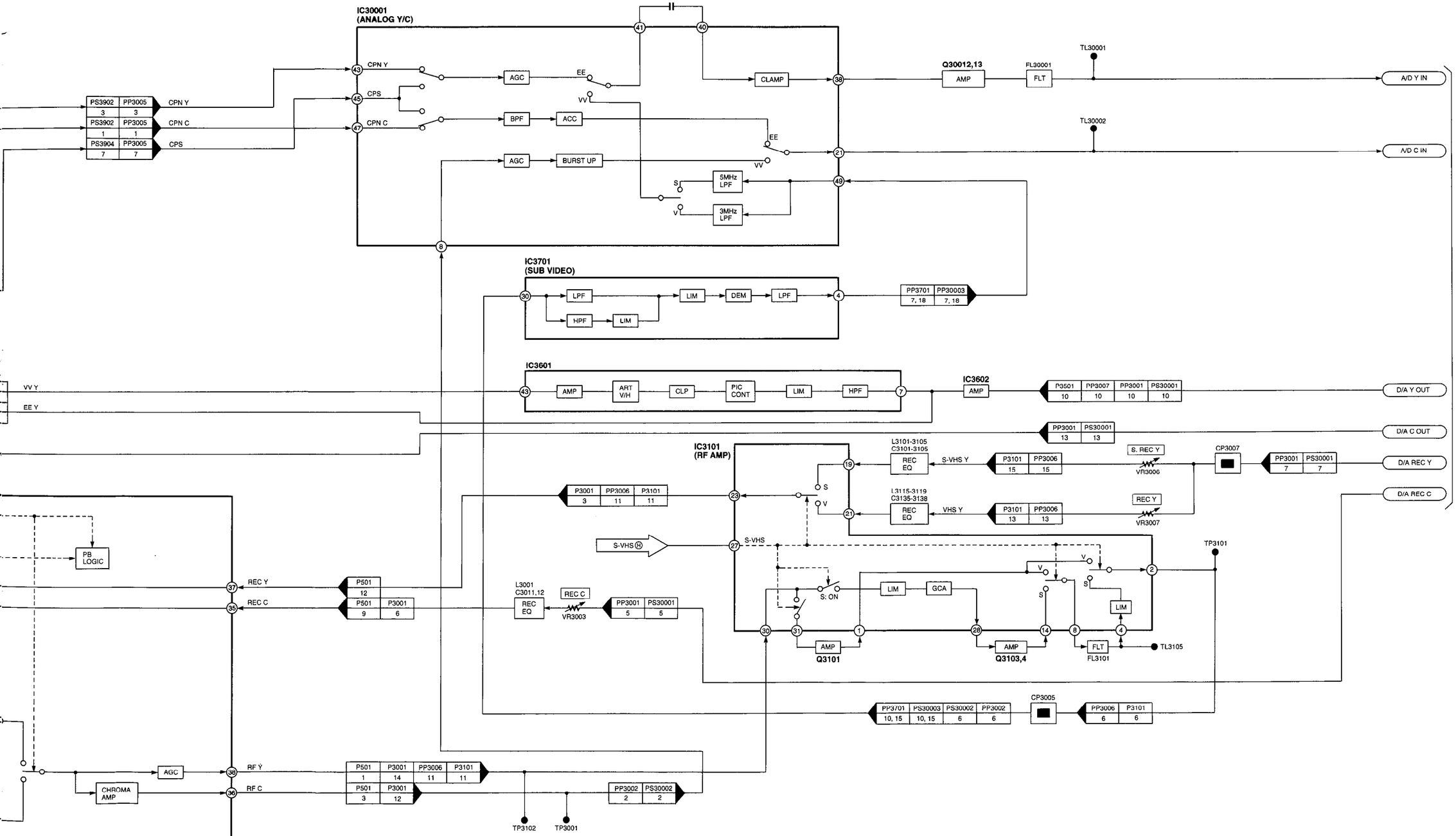
4-3. AUDIO SECTION BLOCK DIAGRAM



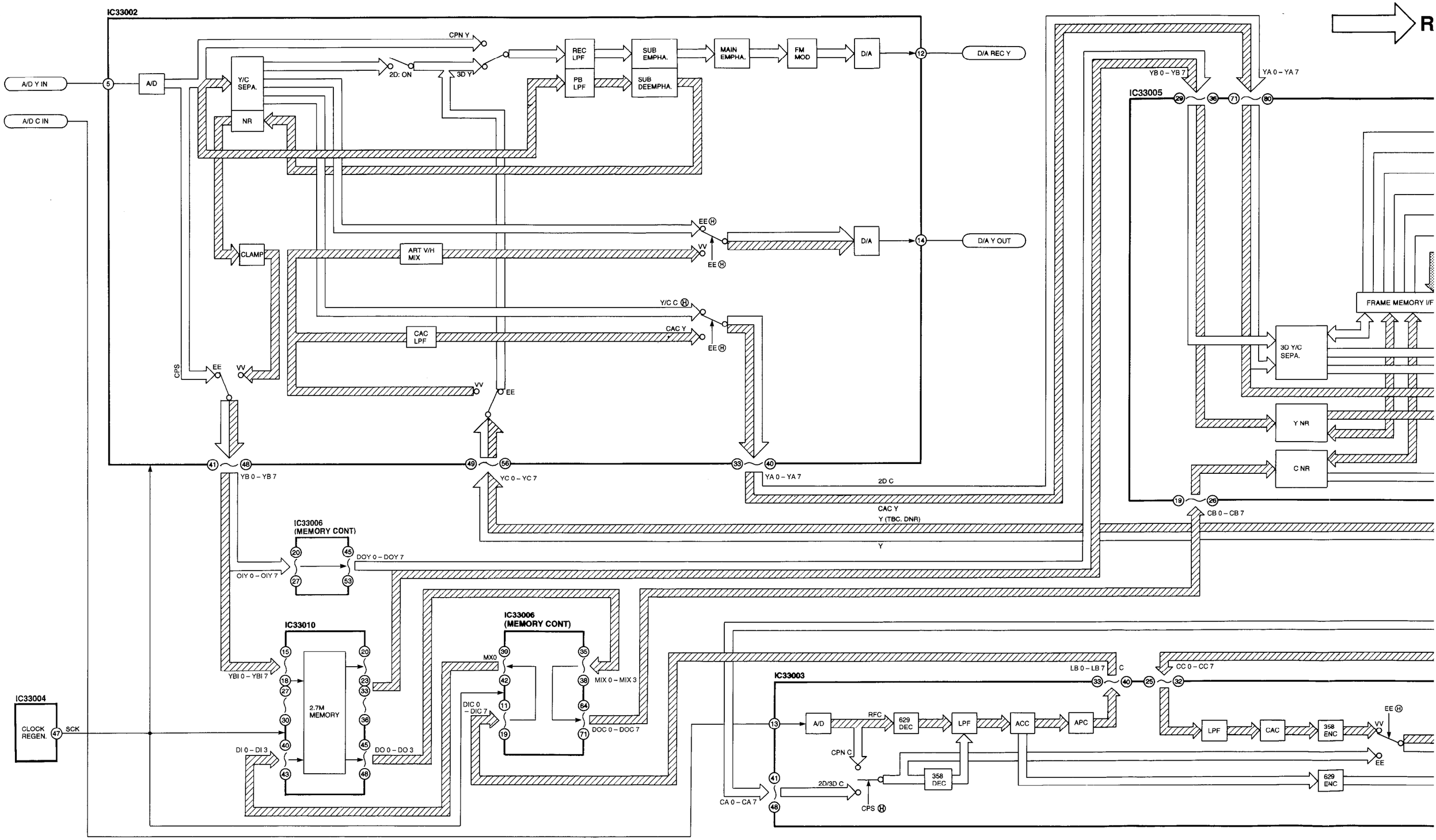

VHS CAS Ⓛ
TO VIDEO
CH1 Hi-Fi Ⓛ
CH2 Hi-Fi Ⓛ
TO FRONT
T4801
Q4804
VR4804
BIAS
QR4805
Q4806
AMP
AUDIO HEAD W
AUDIO HEAD R
AUDIO ERASE HEAD
P4807
P4001
AUDIO HEAD
AUDIO ERASE HEAD
A/C HEAD
I/O PACK C.B.A.
PS3901
NORMAL AUDIO OUT
IC6001~45
FM.H.SW
D.FM REC Ⓛ
FROM SYSTEM CONTROL & SERVO
CH1 REC/PB LEVEL
CH1 F0
VR407
VR405
+5V
OUTPUT SW CONTROL
CCA
ATT
EMPHASIS
WEIGHTING
DET
HOLD 2
HOLD 1
AMP
AUDIO LIM
VCO
Hi-Fi L.P.F
L.P.F
PHASE COMP.
Hi-Fi LIM
HOLD MM
D.O DET
ENVELOPE DET
MUTE
PB/REC CONTROL
FL4501
1.3MHz B.P.F
1.7MHz B.P.F
Q4504
Q4505
RF OUT
REC.IN
A.H.SW
REC 12V
IC551
REC AMP
RF AMP
SW
PRE AMP
PB:ON
REC:ON
REC/PB
Hi-Fi HEAD L
Hi-Fi HEAD R
HEAD AMP C.B.A.
IC6502
METER R
METER L
DISPLAY
TIMER C.B.A.
VR6671
HEAD PHONE
VR C.B.A.
IC4502
Q4502
Q4507
MUTE ON
H・P.OUT R
H・P.OUT L
VR401
CH2 REC/PB LEVEL
VR402
CH2 F0
TP4004
TP4005
CH1 LINE OUT
CH2 LINE OUT
LINE OUT L (1)
LINE OUT R (1)
LINE OUT L (2)
LINE OUT R (2)

4-4. VIDEO (ANALOG) SECTION BLOCK DIAGRAM




IC30001
(ANALOG Y/C)
CPN Y
CPS
CPN C
AGC
EE
BPF
ACC
VV
BURST UP
5MHz LPF
3MHz LPF
CLAMP
Q30012,13
AMP
FL30001
FLT
TL30001
TL30002
A/D Y IN
A/D C IN
PS3902 PP3005 3 3 CPN Y
PS3902 PP3005 1 1 CPN C
PS3904 PP3005 7 7 CPS
IC3701
(SUB VIDEO)
LPF
HPF
LIM
DEM
PP3701 PP30003 7, 18 7, 18
TO DIGITAL Y/C BLOCK
IC3601
AMP
ART V/H
CLP
PIC CONT
IC3602
P3501 PP3007 PP3001 PS30001 10 10 10 10
D/A Y OUT
PP3001 PS30001 13 13
D/A C OUT
D/A REC Y
D/A REC C
VV Y
EE Y
IC3101
(RF AMP)
L3101-3105
C3101-3105
REC EQ
S-VHS Y
P3101 PP3006 15 15
S. REC Y
VR3006
CP3007
PP3001 PS30001 7 7
L3115-3119
C3135-3138
VHS Y
P3101 PP3006 13 13
REC Y
VR3007
P3001 PP3006 P3101 3 11 11
S-VHS
TP3101
PB LOGIC
REC Y
REC C
P501 12
P501 P3001 9 6
L3001
C3011,12
REC C
VR3003
PP3001 PS30001 5 5
S: ON
LIM
GCA
AMP
Q3101
Q3103,4
FLT
FL3101
TL3105
PP3701 PS30003 PS30002 PP3002 10, 15 10, 15 6 6
CP3005
PP3006 P3101 6 6
AGC
CHROMA AMP
RF Y
RF C
P501 P3001 PP3006 P3101 1 14 11 11
P501 P3001 3 12
PP3002 PS30002 2 2
TP3102
TP3001

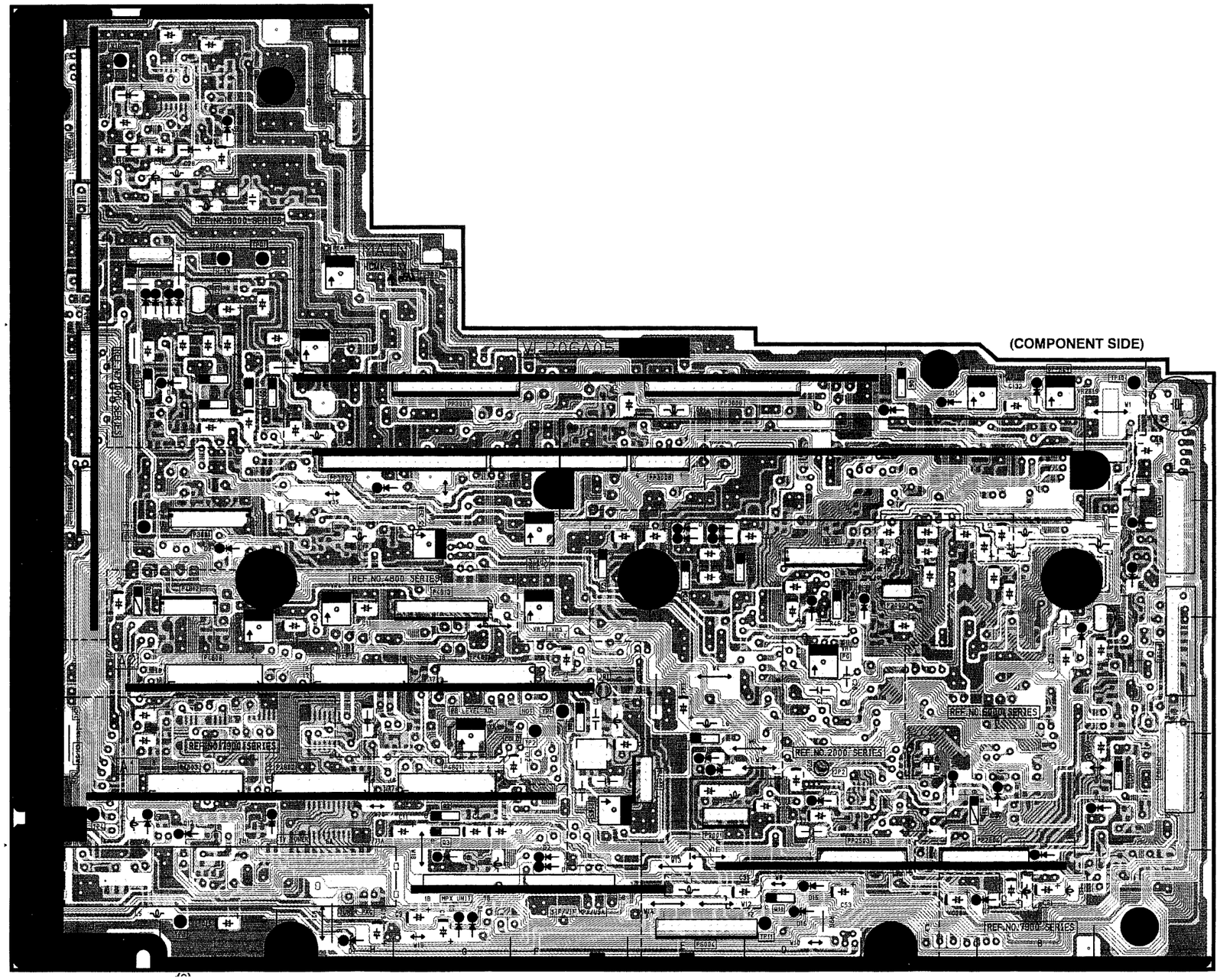
4-5. VIDEO (DIGITAL) SECTION BLOCK DIAGRAM

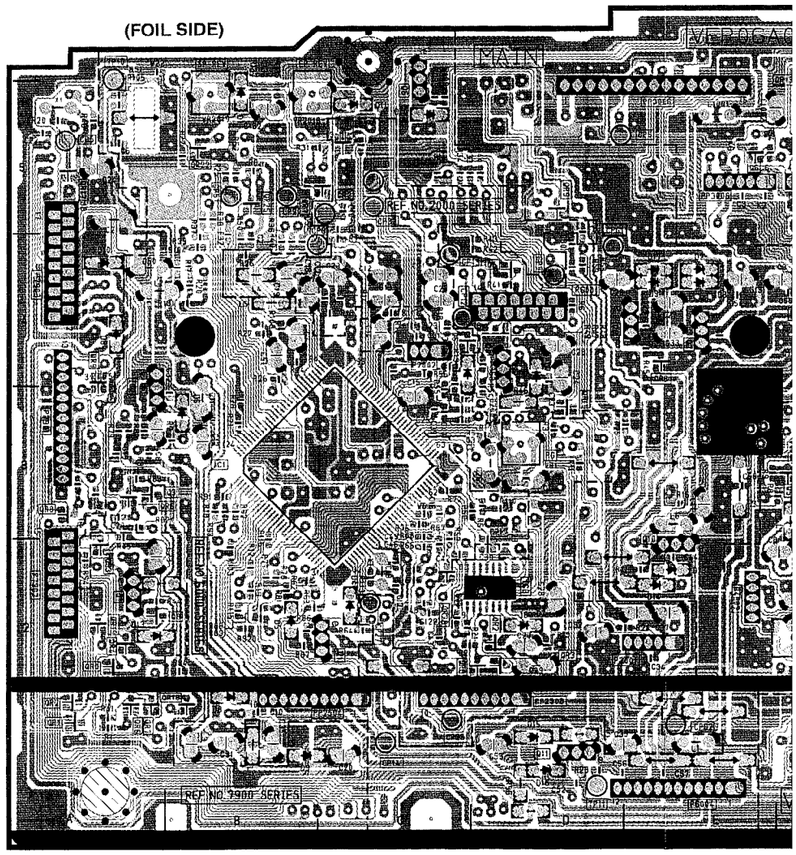


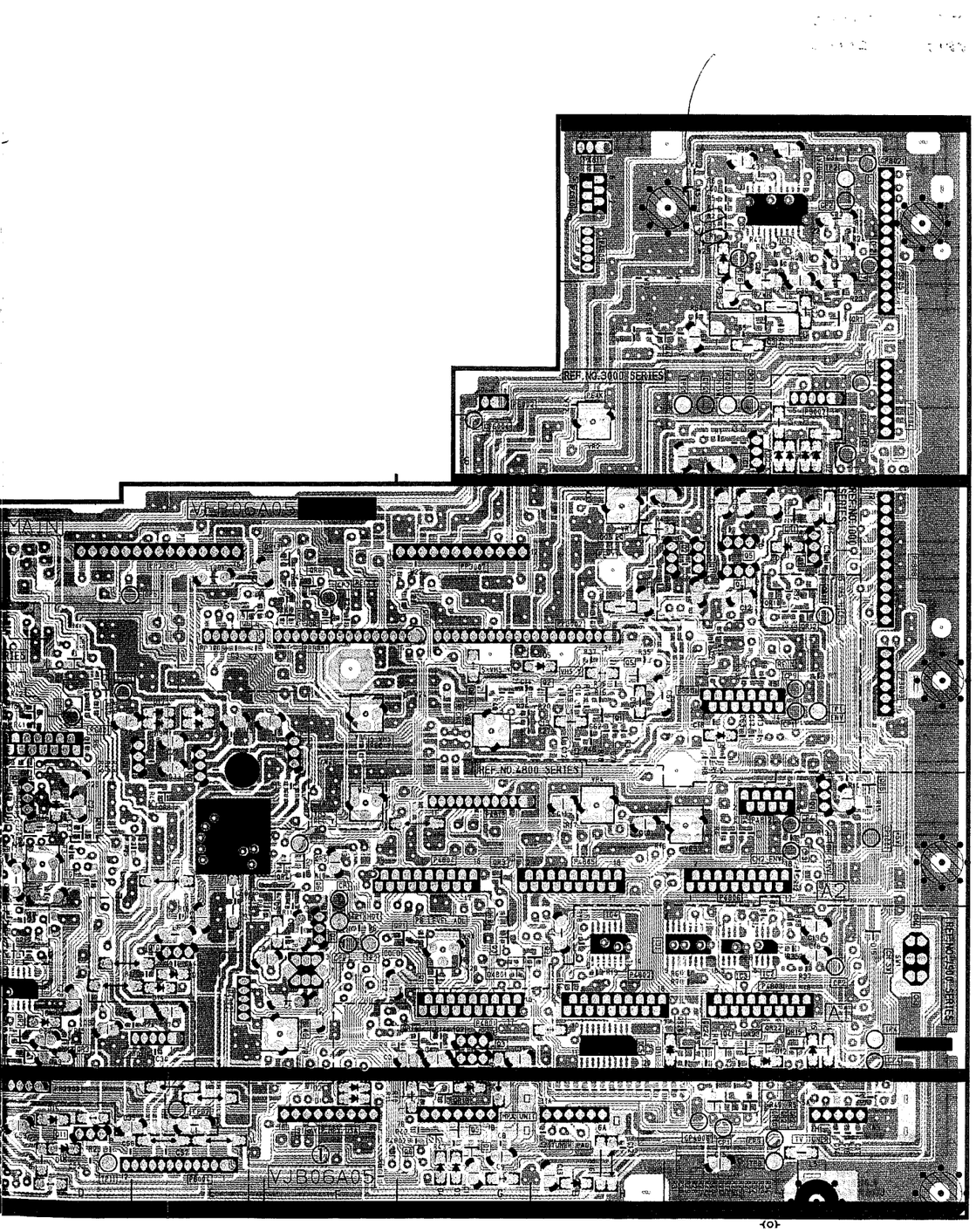
REC
MEMORY
PLAYBACK
REC LPF
PB LPF
SUB EMPHA.
SUB DEEMPHA.
MAIN EMPHA.
FM MOD
D/A
12
D/A REC Y
EE Ⓗ
VV
D/A
14
D/A Y OUT
Y/C C Ⓗ
CAC Y
EE Ⓗ
33
40
YA 0 – YA 7
2D C
CAC Y
Y (TBC, DNR)
Y
YB 0 – YB 7
YA 0 – YA 7
IC33005
29
36
71
80
3D Y/C SEPA.
Y NR
C NR
FRAME MEMORY I/F
EE Ⓗ
H
L
YC 0 – YC 7
CA 0 – CA 7
CC 0 – CC 7
19
26
CB 0 – CB 7
DEC C
C
OE1
OE0
MCK
WE1
WE0
RE
MI 0 – MI 7
MO 0 – MO 7
46
46
55
52
57
47
37
44
49
61
63
70
93
100
1
10
PS33001 PP34001
16 16
18 18
8 8
1 1
6 6
17 17
23-30 23-30
2-5,12-15 2-5,12-15
IC34001
IC34002
WCK
RCK
OE
WE
RF
MI 0 – MI 7
MO 0 – MO 7
2M MEMORY
9
20
22
5
24
1
15
4
11
18
25
14
28
35
38
MIX 0 – MIX 3
64
71
DOC 0 – DOC 7
IC33003
LB 0 – LB 7
C
CC 0 – CC 7
33
40
25
32
13
41
48
A/D
RFC
629 DEC
LPF
ACC
APC
CPN C
2D/3D C
358 DEC
CA 0 – CA 7
CPS Ⓗ
LPF
CAC
358 ENC
629 ENC
EE Ⓗ
VV
EE
D/A
D/A
3
7
D/A C OUT
D/A REC C

SECTION 5. SCHEMATIC DIAGRAMS & CIRCUIT BOARDS

5-1. MAIN C.B.A.







MAIN C.B.A. (COMPONENT SIDE)

Transistor	
Q1001	I-5
Q1002	I-5
Q1003	J-6
Q1004	I-5
Q1005	I-6
Q4804	F-3
Q4807	J-4
Q6001	C-2
Q6002	F-4
Q6004	D-4
Q6006	C-6
Q6007	E-4
Q6008	E-4
Q6010	E-2
Q6011	D-1
Q7902	G-2
Q7903	G-2
Q7907	A-2

Integrated Circuit	
IC1001	I-6
IC6002	A-3

Test Point	
TP2001	I-7
TP3001	J-4
TP3002	J-8
TP4001	F-3
TP4002	F-3
TP6010	A-6
TP6011	D-1
TP7903	I-1
TP7904	J-2
TPG3001	I-7
JP2002	D-2
JP4801	F-3

Adjustment	
VR2001	D-3
VR2018	B-5
VR2019	B-5
VR3001	H-6
VR3002	H-6
VR3003	G-4
VR3006	F-4
VR3007	F-4
VR4801	G-3
VR4802	F-2
VR4803	I-3
VR4804	H-4

Connector	
P2001	E-2
P2002	C-4
P3001	I-4
P3002	J-7
P4801	G-2
P4802	H-2
P4803	I-2
P4804	G-3
P4805	H-3
P4806	I-3
P4807	E-2
P4808	J-6
P4809	H-8
P4810	H-8
P4811	H-8
P4812	I-4
P4813	G-4
P6001	D-4
P6002	G-7
P6004	E-1
P7901	A-3
P7902	A-2
P7903	A-4
PP2503	D-1
PP2504	C-1
PP3001	F-5
PP3002	H-5
PP3003	J-5
PP3004	J-7
PP3005	J-8
PP3006	E-5
PP3007	G-5
PP3008	E-5

ADDRESS INFORMATION

MAIN C.B.A. (FOIL SIDE)

Transistor	
Q1001	I-5
Q1002	I-5
Q1003	J-5
Q1004	I-5
Q1005	I-6
Q3001	H-4
Q3002	H-4
Q3003	I-7
Q3004	H-7
Q3005	H-5
Q3006	E-5
Q4801	G-2
Q4802	H-2
Q4803	G-3
Q4804	F-3
Q4805	F-3
Q4806	F-3
Q4807	J-4
Q6001	C-2
Q6002	F-4
Q6003	A-3
Q6004	D-4
Q6005	D-4
Q6006	C-6
Q6007	E-4
Q6008	E-4
Q6010	E-2
Q6011	D-1
Q7901	G-1
Q7902	G-2
Q7903	G-2
Q7904	I-2
Q7905	G-1
Q7906	G-1
Q7907	A-2
Q7908	A-2

Transistor & Resistor	
QR1001	I-6
QR2001	C-5
QR2002	D-2
QR2003	D-2
QR2008	D-2
QR3001	J-7
QR3006	F-5
QR3007	F-5
QR3010	I-5
QR3011	J-5
QR3012	J-5
QR3013	F-5
QR3014	G-4
QR4801	G-3
QR4802	G-3
QR4803	G-3
QR4804	F-3
QR4805	F-3
QR4806	J-4
QR6006	A-3
QR6007	C-5
QR6008	E-4
QR6009	D-5
QR6011	D-3
QR6022	B-5
QR6025	B-5
QR6026	C-2
QR7901	A-1
QR7902	A-1
QR7903	A-2
QR7904	A-2
QR7905	A-2
QR7906	A-1
QR7907	A-1
QR7908	A-3
QR7909	A-4
QR7910	I-1
QR7913	G-1
QR7914	G-2
QR7915	I-2
QR7917	A-5
QR7918	B-2
QR7919	A-2
QR7920	I-2
QR7921	I-1
QR7922	I-2
QR7923	I-2
QR7924	I-2
QR7925	I-1

Integrated Circuit	
IC1001	I-6
IC2003	D-2
IC3001	I-8
IC3002	F-5
IC6001	B-3
IC6002	A-3
IC7901	I-3
IC7902	I-2
IC7903	I-2
IC7904	H-3
IC7905	H-2

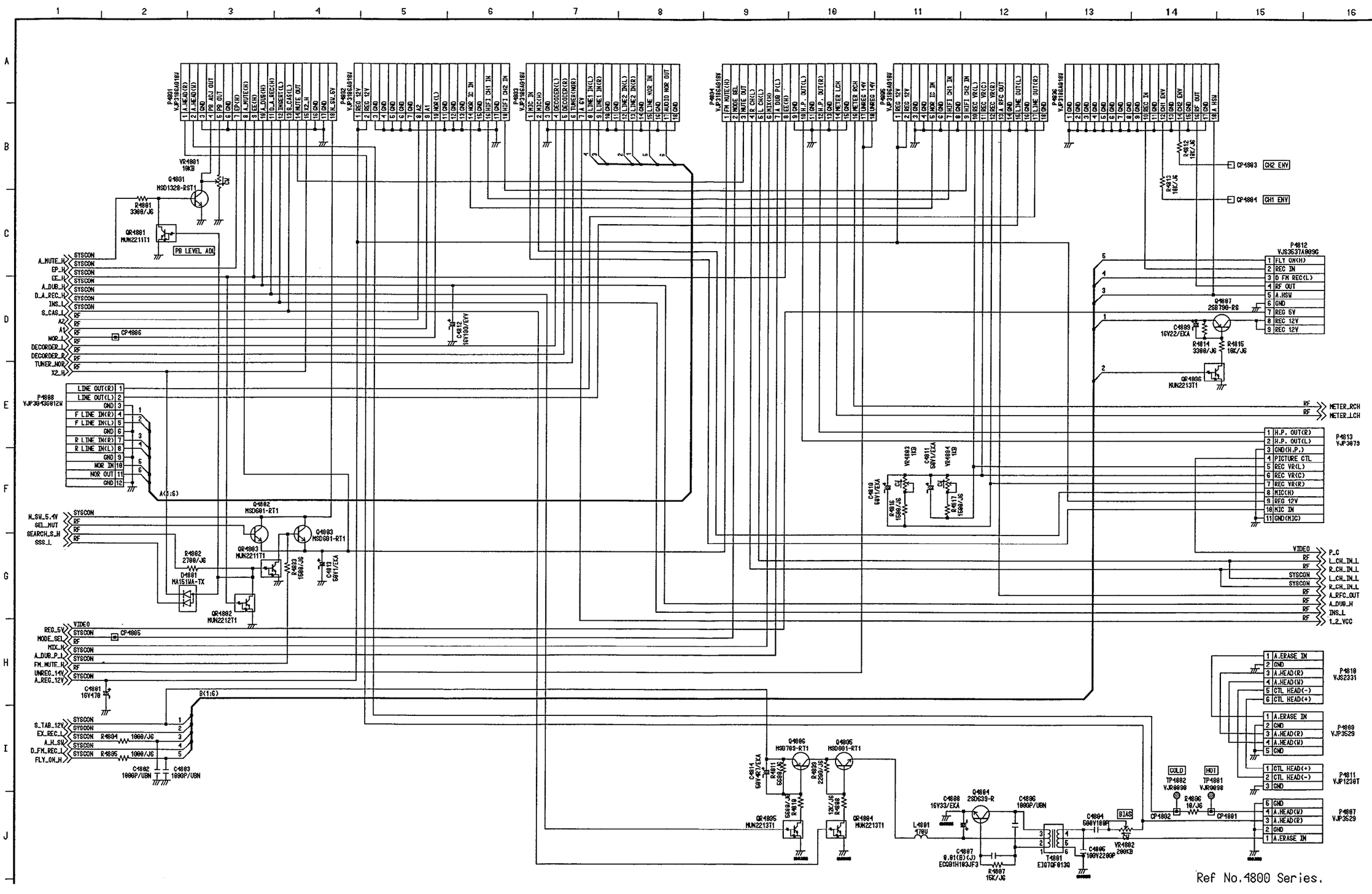
Test Point	
TP2001	I-7
TP3001	J-4
TP3002	J-8
TP4801	F-3
TP4802	F-3
TP6010	A-6
TP6011	D-1
TP7903	I-1
TP7904	J-2
TPG3001	I-7
CP1001	J-3
CP2001	I-7
CP2002	C-5
CP2009	D-4
CP2026	C-1
CP2027	C-2
CP2031	C-5
CP2032	C-5
CP3001	I-4
CP3002	J-8
CP3003	J-7
CP3004	J-5
CP3005	D-5
CP3006	I-8
CP3007	F-5
CP3008	J-6
CP3009	I-4
CP3010	G-5
CP3021	J-8
CP4801	F-3
CP4802	F-3
CP4803	I-3
CP4804	I-3
CP4805	F-3
CP4806	I-1
CP6002	B-5
CP6003	B-4
CP6004	G-6
CP6005	B-5
CP6012	C-4
CP6013	C-4
CP6014	C-1
CP7901	I-1
CP7902	J-2
CP7903	I-1
CP7904	J-2
CP7905	A-5
CP8021	J-8
CPG3001	I-7
CPG6001	D-4
CPG6002	E-1

Adjustment	
VR2001	D-3
VR2018	B-5
VR2019	B-5
VR3001	H-6
VR3002	H-6
VR3003	G-4
VR3006	F-4
VR3007	F-4
VR4801	G-3
VR4802	F-2
VR4803	I-3
VR4804	H-4

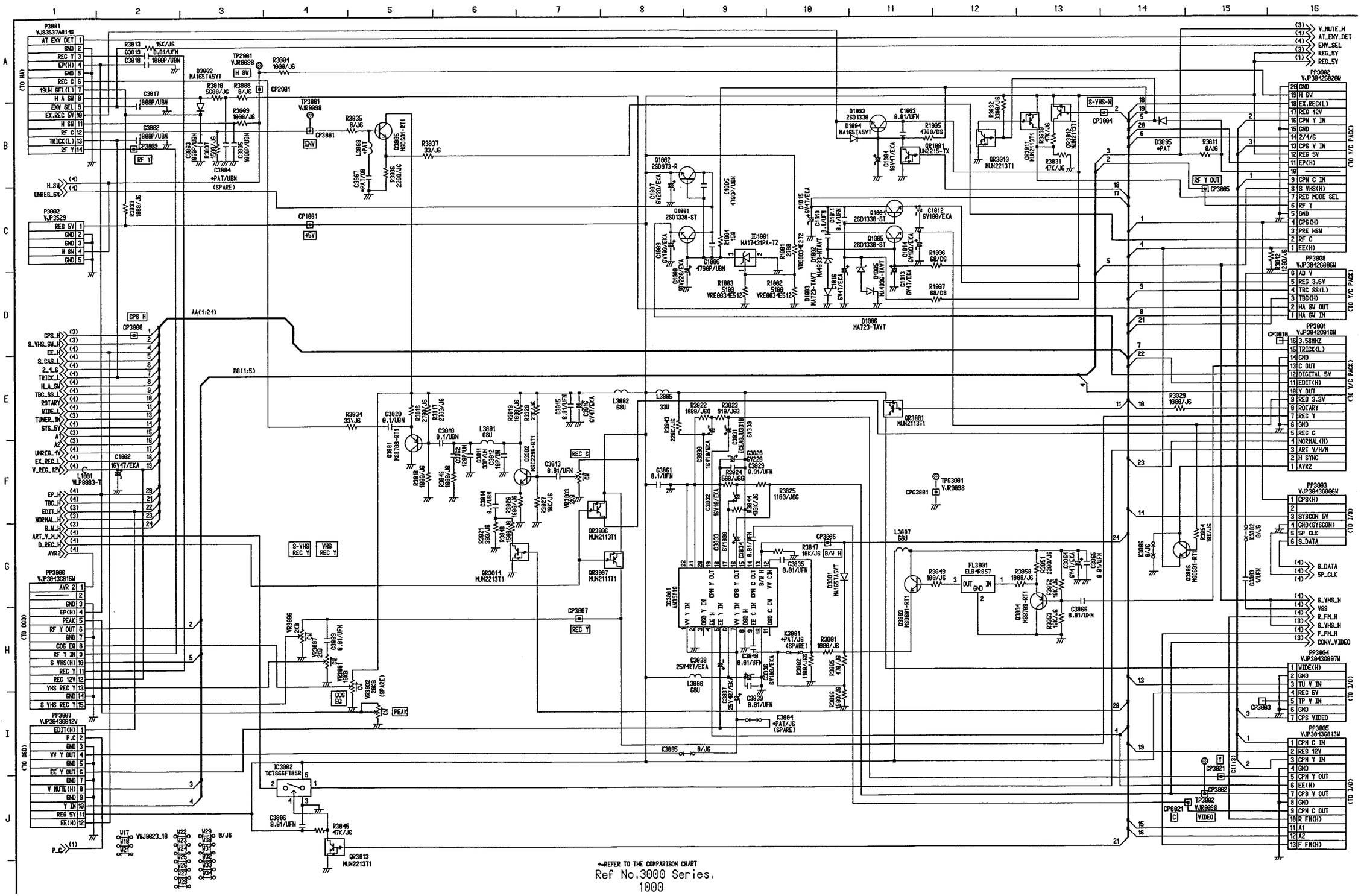
Connector	
P2001	E-2
P2002	C-4
P3001	I-4
P3002	J-7
P4801	G-2
P4802	H-2
P4803	I-2
P4804	G-3
P4805	H-3
P4806	I-3
P4807	E-2
P4808	J-5
P4809	H-8
P4810	H-8
P4811	H-8
P4812	I-4
P4813	G-4
P6001	D-4
P6002	G-7
P6004	E-1
P7901	A-3
P7902	A-2
P7903	A-4
PP2503	D-1
PP2504	C-1
PP3001	F-5
PP3002	H-5
PP3003	J-4
PP3004	J-7
PP3005	J-8
PP3006	E-5
PP3007	G-5
PP3008	E-5

ADDRESS INFORMATION

5-2. AUDIO (MAIN) SCHEMATIC DIAGRAM



5-3. VIDEO (MAIN) SCHEMATIC DIAGRAM



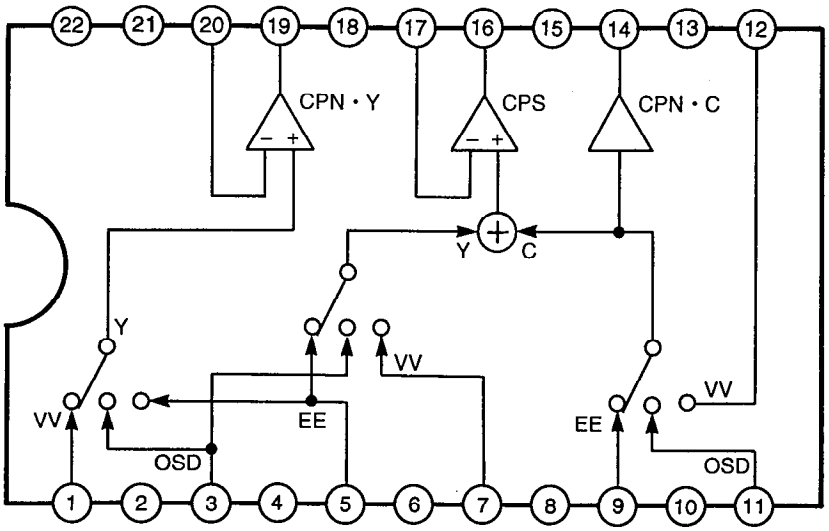
AUDIO (MAIN) C.B.A.

REF. NO. / MODE	Q4801			Q4802			Q4803			Q4804			Q4805			Q4806				
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	0	0	0	0	5.3	0	0	5.3	0	0	0.2	0.2	0.2	0	0	0.5	0	0.5		
REC	0	0	0	0	5.3	0	0	5.3	0	0	8.8	0.9	9.3	12.0	10.0	12.1	12.0	11.3		
REF. NO. / MODE	Q4807																			
	E	C	B																	
PLAY	0.6	0	0.3																	
REC	12.1	12.0	11.3																	
REF. NO. / MODE	QR4801			QR4802			QR4803			QR4804			QR4805			QR4806				
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	0	0	0	0	0	0	0	0	0	0	0	4.2	0	0.9	0	0	0.3	0		
REC	0	0	0	0	0	4.8	0	0	0	0	0	4.2	0	0	4.8	0	0	3.8		

VIDEO MAIN C.B.A.

REF. NO. / MODE	IC1001																			
	R	A	K																	
PLAY	2.4	0	5.9																	
REC	2.5	0	5.9																	
REF. NO. / MODE	IC3001																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	2.5	0	2.0	0	2.5	5.1	2.5	0	1.9	0	1.9	1.9	0	2.3	5.1	2.4	1.6	0	2.4	1.8
REC	2.5	0	2.0	4.8	2.5	5.1	2.5	0	1.9	0	1.9	1.9	0	2.3	5.1	2.3	1.6	0	2.2	1.8
REF. NO. / MODE	IC3001		IC3002					Q1001			Q1002			Q1003			Q1004			
	21	22	1	2	3	4	5	E	C	B	E	C	B	E	C	B	E	C	B	
PLAY	0	0	0.4	0.3	0	5.1	5.1	5.2	6.0	5.9	5.2	6.0	5.9	5.1	5.1	5.8	3.7	4.3	4.3	
REC	0	0	0.4	0.3	0	5.1	5.1	5.2	6.0	5.9	5.2	6.0	5.9	0.3	5.2	0	3.7	4.3	4.3	
REF. NO. / MODE	Q1005			Q3001			Q3002			Q3003			Q3004			Q3005				
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	3.3	4.3	4.0	2.6	0.2	2.0	1.1	3.9	1.9	2.5	5.1	3.1	3.1	0	2.5	1.3	5.1	1.9		
REC	3.3	4.3	4.0	2.6	0	2.0	1.2	3.9	1.9	2.5	5.1	3.1	3.1	0	2.5	0	5.2	0		
REF. NO. / MODE	Q3006			QR1001			QR3001			QR3006			QR3007			QR3010				
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	0	0	0.5	0	5.8	0	5.1	0	5.0	5.1	5.0	0.4	5.1	5.0	0.1	0	0	4.2		
REC	4.8	0	0.5	0	0	3.8	5.1	0	5.0	5.1	2.0	5.0	0.2	3.3	5.0	0	0	4.2		
REF. NO. / MODE	QR3011			QR3012			QR3013			QR3014										
	E	C	B	E	C	B	E	C	B	E	C	B								
PLAY	5.1	5.1	0	5.1	5.1	0	0	5.1	0	0	0	0								
REC	5.2	5.1	0	5.2	5.2	0	0	5.1	0	0	0	0								

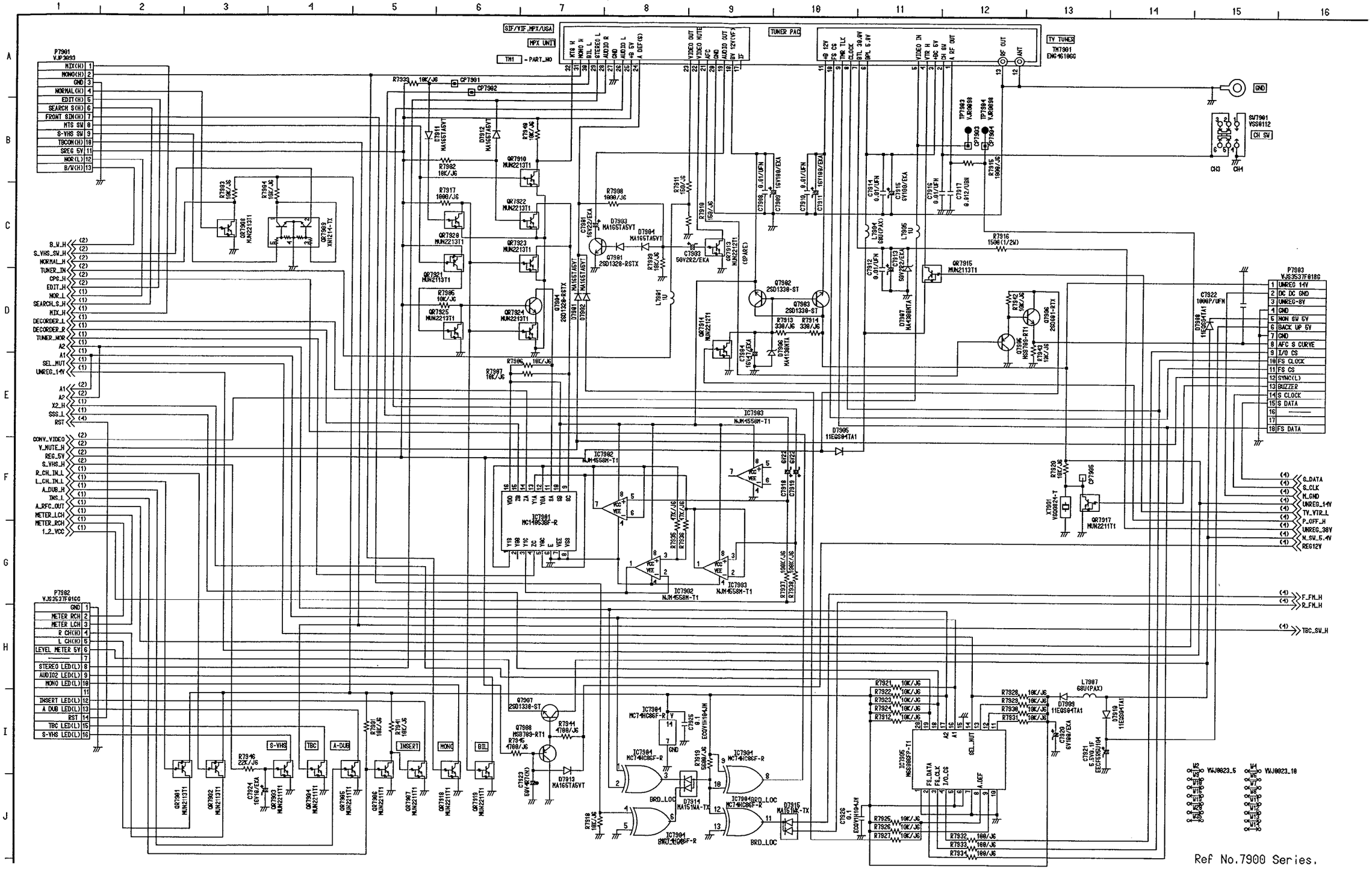
■ IC3001 (AN3581S)



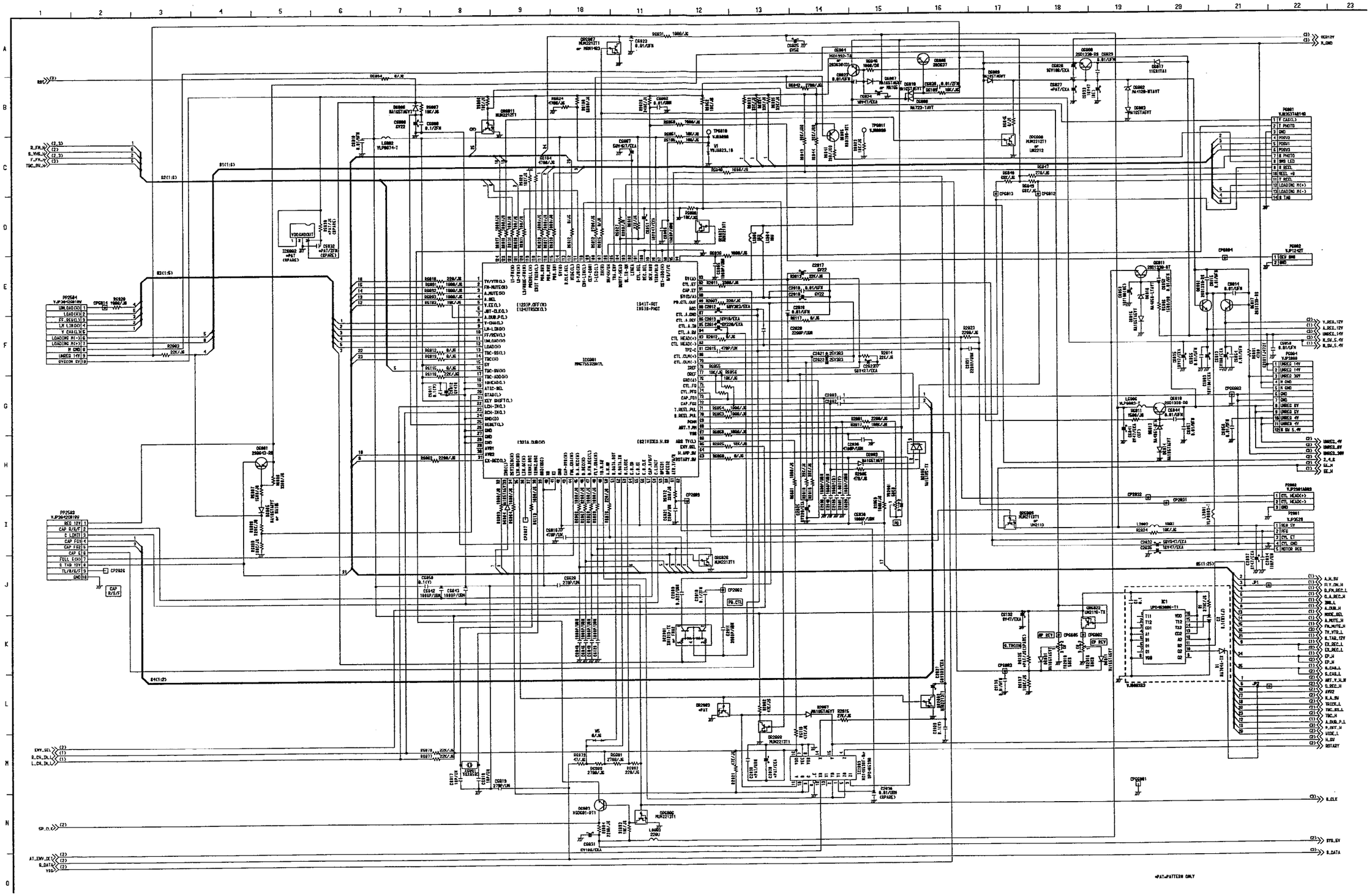
RF INTERFACE C.B.A.

REF. NO.	IC1																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
PLAY	0	0	0	3.7	0	5.0	0	0	0	0.5	5.0	0.5	5.0	5.0						
REC	0	0	0	3.7	0	5.0	0	0	0	0.5	5.0	0.5	5.0	5.0						
REF. NO.	IC7901																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
PLAY	6.0	0.9	6.0	6.0	6.0	0	0	0	0	12.5	12.5	6.0	6.0	6.0	6.0	12.5				
REC	6.1	2.6	6.0	6.1	6.1	0	0	0	0	12.6	12.5	6.1	6.1	6.1	6.1	12.6				
REF. NO.	IC7902								IC7903											
MODE	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8				
PLAY	6.0	6.0	6.0	0	0	6.0	6.0	0	6.0	6.0	6.0	0	2.1	2.1	12.1	12.5				
REC	6.0	6.0	6.0	0	6.0	6.0	6.0	0	6.0	6.0	6.0	0	2.2	2.0	12.1	12.5				
REF. NO.	IC7905																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	4.1	4.7	4.9	5.0	5.0	0	3.5	5.0	0	0	0	0	0	0	3.7	0	5.0	0	5.0
REC	0	4.1	4.8	4.9	5.0	5.0	0	3.5	5.0	0	0	0	0	0	0	3.7	0	5.0	0	5.0
REF. NO.	Q7901			Q7902			Q7903			Q7904			Q7905			Q7906				
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	0	0	0.4	12.6	14.6	13.2	12.6	14.6	13.2	0.9	12.5	0	4.6	0	3.8	4.1	5.1	4.6		
REC	0	0	0.4	0	0	0	0	0	0	0	12.6	0	4.3	0	3.4	3.7	5.2	4.3		
REF. NO.	Q7907			Q7908																
MODE	E	C	B	E	C	B														
PLAY	5.2	5.3	5.8	5.8	0	5.1														
REC	5.2	5.3	5.8	5.8	0	5.2														
REF. NO.	QR7901			QR7902			QR7903			QR7904			QR7905			QR7906				
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	5.0	5.0	0.4	5.0	5.0	0.4	0	2.8	0	0	4.1	0	0	3.7	0	0	0	3.4		
REC	5.0	5.0	0.4	5.0	5.0	0.4	0	3.6	0	0	4.4	0	0	4.1	0	0	0	3.4		
REF. NO.	QR7907			QR7908			QR7909					QR7910			QR7913			QR7914		
MODE	E	C	B	E	C	B	1	2	3	4	5	E	C	B	E	C	B	E	C	B
PLAY	0	3.7	0	0	4.2	0	2.8	0	2.8	0	0	0	5.1	0	0	12.2	0	0	13.2	0
REC	0	0	0	0	4.2	0	0	0	0	0	0	0	5.2	0	0	12.2	0	0	0	0
REF. NO.	QR7915			QR7917			QR7918			QR7919			QR7920			QR7921				
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	4.8	4.8	0	0	0	4.9	0	4.0	0	0	3.9	0	0	0	0	5.1	5.1	0		
REC	0	0	0	0	0	0	0	0	0	0	4.1	0	0	0	3.9	5.2	5.2	0		
REF. NO.	QR7922			QR7923			QR7924			QR7925										
MODE	E	C	B	E	C	B	E	C	B	E	C	B								
PLAY	0	0	4.2	0	0	0	0	1.4	0	0	0	5.1								
REC	0	0	0	0	0	0	0	1.5	0	0	0	5.2								

5-4. RF INTERFACE SCHEMATIC DIAGRAM



5-5. SYSTEM CONTROL & SERVO SECTION SCHEMATIC DIAGRAM



*PAT-PATTERN ONLY

SYSCON/SERVO C.B.A.

REF. NO.	IC2003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
PLAY	4.9	5.0	4.9	4.9	5.0	0	0	0	5.0	5.0	0	3.2	0.5	3.3	4.9	5.0				
REC	4.9	4.9	4.9	4.9	4.9	0	0	0	4.9	4.9	0	0.1	0.2	0.1	4.9	5.0				
REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	0	0	5.0	5.0	5.0	4.9	4.9	0	4.9	0	0	4.9	0	5.0	0	5.0	0	0	4.2
REC	0	0	0	5.0	0	5.0	4.9	4.9	0	4.9	0	0	4.9	0	5.0	0	4.9	0	0	0
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	5.0	0.4	0.4	0	5.0	0	0	0	5.0	0	0	0	4.9	5.0	4.9	4.9	—	—	0	4.9
REC	5.0	0.4	0.4	0	5.0	0	0	0	0	0	4.9	0	4.9	4.9	4.9	4.9	—	—	0	4.9
REF. NO.	IC6001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
PLAY	0	0	5.0	0	0	0	5.0	0	5.0	5.0	4.6	4.6	4.4	0.7	0	0.6	0	4.9	4.9	4.9
REC	0	0	4.9	4.9	4.9	4.9	0	0	4.9	0	4.7	4.6	4.4	0.7	0	0.7	0	4.9	4.9	4.9
REF. NO.	IC6001																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
PLAY	0	4.9	4.9	0	5.0	4.9	2.4	0.1	3.1	4.9	4.9	2.3	2.4	1.1	2.4	0	2.4	2.4	2.6	2.3
REC	0	4.9	4.9	0	0	4.9	2.4	0.1	3.1	4.9	4.9	2.3	2.4	0.9	2.4	0	2.4	2.4	2.3	2.5
REF. NO.	IC6001																			
MODE	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
PLAY	4.9	0	0	0	2.4	2.4	0	2.9	2.3	5.0	2.5	2.3	4.9	4.7	4.8	5.0	0	5.0	0	0
REC	4.8	1.3	3.8	0	2.4	2.4	0	2.6	2.4	4.9	2.5	2.3	4.9	4.6	4.8	4.9	0	5.0	0	0
REF. NO.	IC6001																			
MODE	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
PLAY	0	2.0	2.3	0.9	3.3	4.9	4.9	0	0	4.9	0.1	5.0	4.3	5.0	0	0	4.9	0	0	0
REC	0	2.0	2.3	0.9	0.1	4.9	4.9	0	0	4.9	0.1	5.0	4.3	5.0	0	0	4.9	0	0	0

REF. NO.	IC6001			IC6002				Q6001			Q6002			Q6003			Q6004			
MODE	121	122	123	124	V	G	O	E	C	B	E	C	B	E	C	B	E	C	B	
PLAY	0	0	0	4.9	5.0	0	5.1	12.3	0.7	12.3	12.3	14.6	12.9	4.3	5.2	0.1	4.9	5.0	5.7	
REC	0	0	0	4.9	5.0	0	5.1	12.3	12.1	11.5	12.3	14.6	12.9	4.3	5.2	0.2	4.9	5.0	5.7	

REF. NO.	Q6005			Q6006			Q6007			Q6008			Q6010			Q6011				
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	4.9	4.9	4.2	4.9	14.6	5.5	12.2	14.6	12.9	12.3	13.9	12.9	5.0	6.1	5.7	5.3	6.1	6.0		
REC	4.9	4.9	4.1	4.9	14.6	5.5	12.3	14.6	12.9	12.3	13.8	12.9	5.0	6.1	5.7	5.3	6.1	6.0		

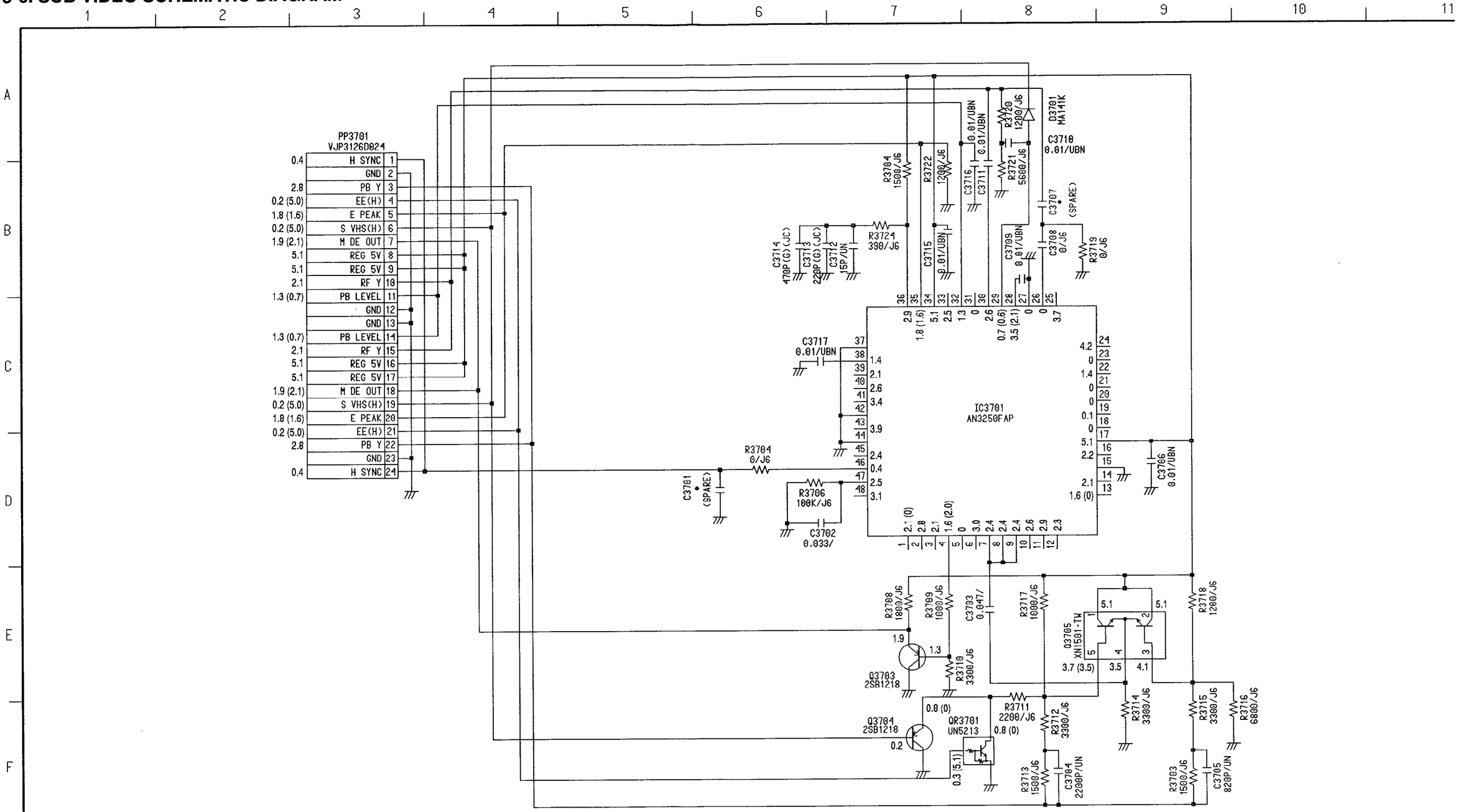
REF. NO.	QR2001					QR2002			QR2008			QR6006			QR6007			QR6008		
MODE	1	2	3	4	5	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0	0	4.9	0	4.9	0	0	4.9	0	0	4.9	0	0.2	4.2	0	0	4.9	0	12.9	0
REC	0	0	4.9	0	4.9	0	0	4.9	0	0	4.9	0	0.1	4.2	0	0	4.9	0	12.9	0

REF. NO.	QR6009			QR6011			QR6022			QR6025		
MODE	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	5.0	0	5.0	0	4.2	0	5.0	0	4.9	0	0	4.9
REC	5.0	4.9	0	0	4.2	0	5.0	0	4.9	0	0	4.9

■ I/O DIVISION
IC6001 (MN6755320H7L) SYSTEM CONTROL

Terminal	I/O	Function	Terminal	I/O	Function	Terminal	I/O	Function
1	O	TV (H) / VTR (L)	43	O	CAP RVS (H)	85	I	CTL AMP INPUT
2	O	FM MUTE (H)	44	O	FULL ERASE (H)	86	I	CTL AMP REFERENCE VOLTAGE
3	O	AUDIO MUTE (H)	45	O	D.A. REC (H)	87	—	CTL AMP GND
4	O	AUDIO SELECT	46	O	D. REC (H)	88	I	AGC
5	O	V EE (L)	47	O	D. FM REC (H)	89	O	PLAYBACK CTL
6	O	JUST CLOCK (L)	48	O	FLYING ERASE (H)	90		5 V (D/A)
7	O	POST-SYNCH (L)	49	O	19 μ H SW	91	O	CAP TORQUE
8	O	VOLTAGE SELECT	50	O	AUDIO H SW	92	O	CYLINDER TORQUE
9	O	LOADING MOTOR LIMIT (H)	51	O	S. DATA (system cont.) OUT	93	—	5 V (ANALOG)
10	O	FF, REW (L)	52	I	S. DATA (system cont.) IN	94	I	T PHOTO SENSOR
11	O	UNLOADING (H)	53	O	S. CLOCK (system cont.) OUT	95	I	S PHOTO SENSOR
12	O	LOADING (H)	54	O	S. DATA (EXP) OUT	96	I	NORMAL (H) / SERVICE (M) / TEST (L)
13	O	TBC SS (L)	55	I	S. DATA (EXP) IN	97	—	
14	O	TBC ON (H)	56	O	S. CLOCK (EXP) OUT	98	I	VISS/BILINGUAL (EXIST/NOTHING)
15		VDD	57	O	CAP R (H) / S (M) / F (L)	99	I	DEW SENSOR
16	I	TBC SW ON (L)	58	O	CURRENT LIMIT	100	I	VSS/REC SELECT (PAL/NTSC)
17	I	TBC ADD (H)	59	—		101	I	DECK/CLY (TDD/LDD) SELECT
18	I	10 HEAD (H)	60	—		102	I	LINEARITY
19	I	AT SELECT [FERRITE (H)]	61	O	ARTIFICIAL VERTICAL SYNC V/H/N	103	I	SLOW TRACKING MM
20	I	SAFETY TAB [TAB EXIST (L)]	62	O	VIDEO HEAD SW	104	I	HEAD CLOG DETECT
21	—	———	63	O	ROTARY SW	105	I	ENVELOPE FOR TRACKING
22	I	Lch IN (L) FOR CONFIRM	64	O	HEAD AMP SW	106	O	VV 4H (L)
23	I	Rch IN (L) FOR CONFIRM	65	I	ENVELOPE SELECT	107	O	SP (H) / EP (L)
24		VSS2	66	I	AV SW TV (H)	108	O	SENSOR LED (L)
25	I	RESET	67		VSS	109	—	
26	—		68	I	ARTIFICIAL SYNC MM	110	O	ENVELOPE LINEARITY (L)
27	—		69	I	CYLINDER PG MM	111	I	S VHS (H)
28	—		70	I	S REEL PULSE	112	O	WIDE TV (L)
29	O	AVR 1	71	I	T REEL PULSE	113	O	S. CLOCK SELECT
30	O	AVR 2	72	I	CAP FG2	114	—	5 V (DIGITAL)
31	O	EX. REC (L)	73	I	CAP FG1	115	I	POSITION SW 1
32	O	POST-SYNCH (H)	74	I	CYLINDER PFG	116	I	POSITION SW 2
33	O	INSERT (L)	75	I	CYLINDER FG	117	I	POSITION SW 3
34	O	26 μ VIDEO (H)	76		VSS	118	—	
35	O	LINEARITY DISCRIMINATE MODE (L)	77	O	SERVO REFERENCE VOLTAGE	119	—	
36	O	LINEARITY OK (H)	78	I	SERVO REFERENCE VOLTAGE	120	I	L3/MUSE FM (H)
37	O	OSC 12 MHz	79	I	CTL PEAK CLAMP (–)	121	I	L2/FM (H)
38	I	OSC 12 MHz	80	I	CTL PEAK CLAMP (+)	122	I	L1/FM (H)
39		VSS	81	I	TPZ C	123	O	POWER OFF (H)
40	—		82	I/O	CTL SIGNAL (–)	124	O	SPECIAL PLAYBACK (L)
41	—		83	O	CTL SIGNAL (+)			
42	—		84	O	CTL AMP SW			

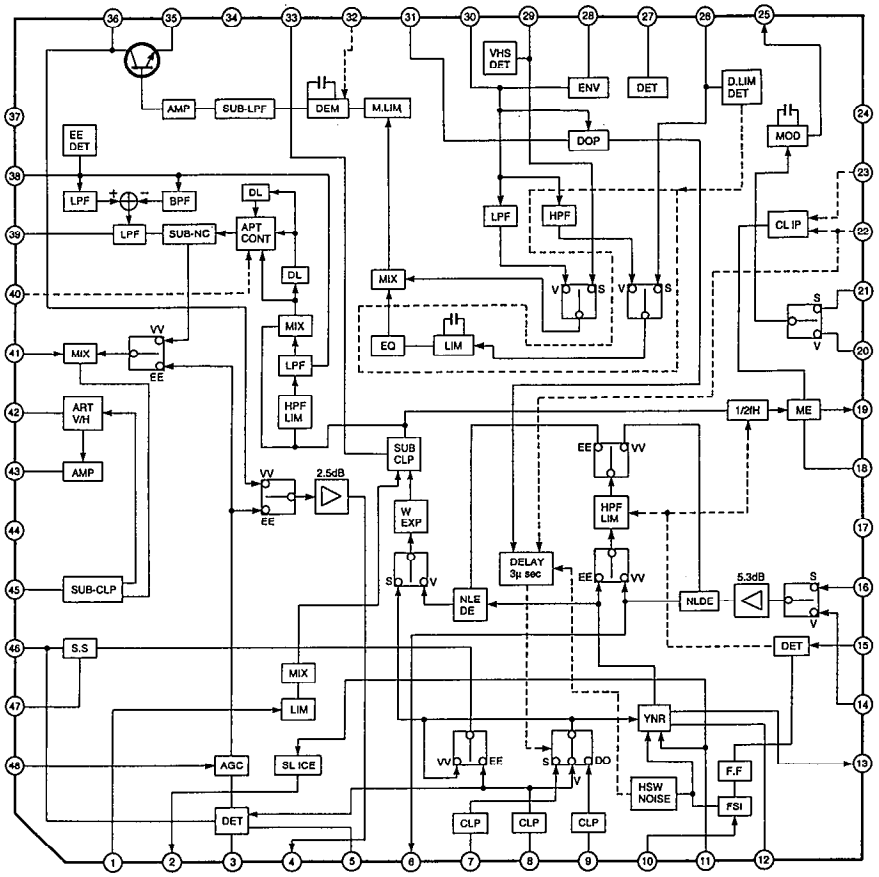
5-6. SUB VIDEO SCHEMATIC DIAGRAM



NOTE: THE MEASUREMENT MODE OF THE DC VOLTAGE IN THE BRACKETS ( ) ON THIS DIAGRAM IS RECORD MODE WITH NTSC COLOUR SIGNAL. (SP MODE)
THE MEASUREMENT MODE OF THE DC VOLTAGE OUT OF THE BRACKETS ON THIS DIAGRAM IS PLAYBACK MODE WITH NTSC COLOUR SIGNAL. (SP MODE)

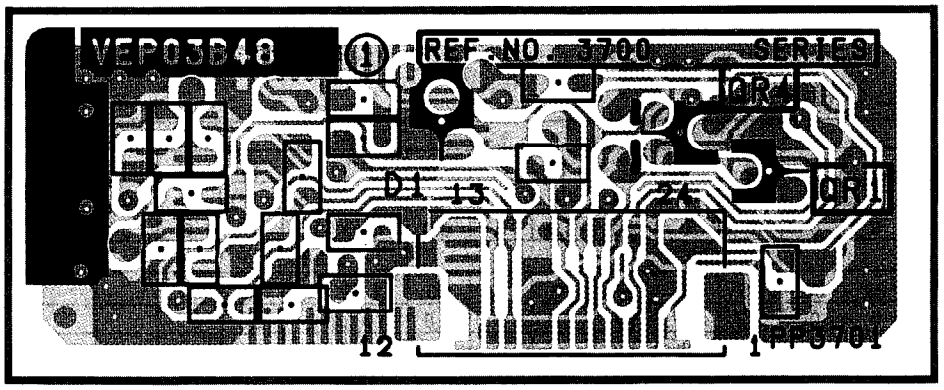
*=REFER TO THE COMPARISON CHART
Ref No.3700 Series.

■ IC3701 (AN3250FAP)

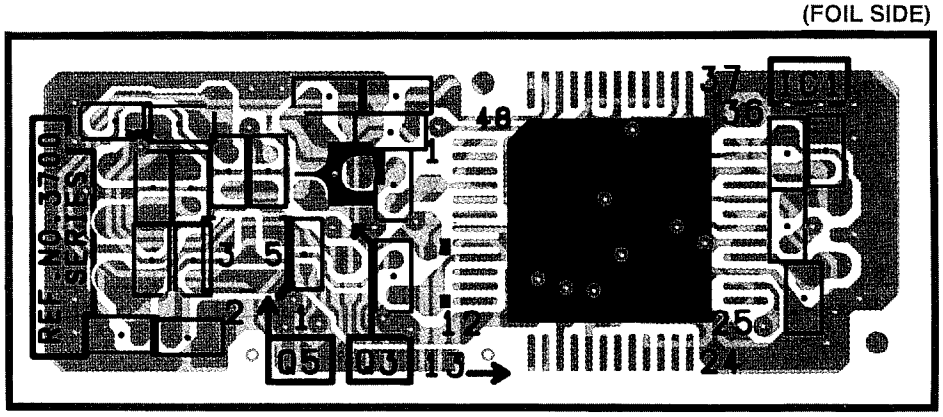


5-7. SUB VIDEO C.B.A.

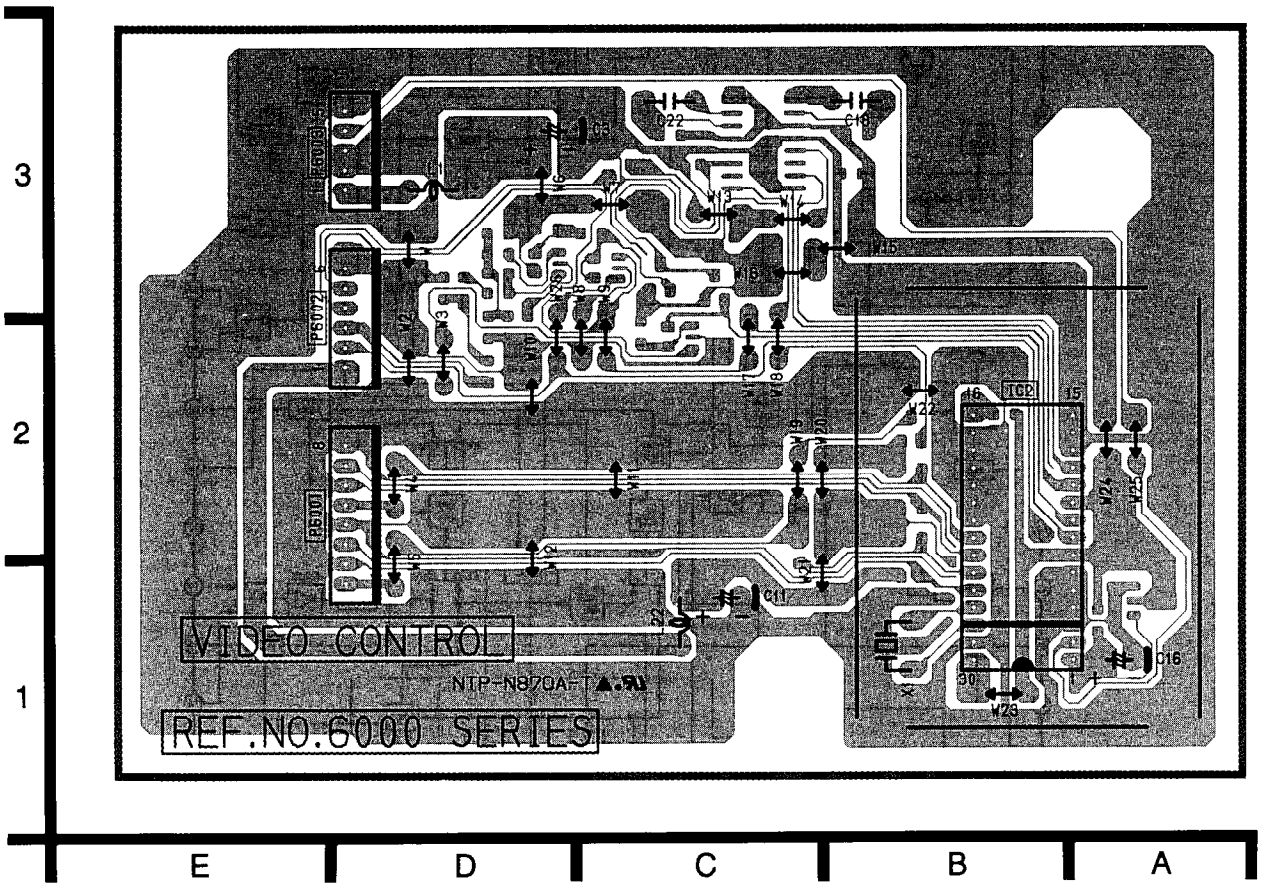
(COMPONENT SIDE)



(FOIL SIDE)



5-8. VIDEO CONTROL C.B.A.



VIDEO CONTROL C.B.A.

REF. NO. / MODE	IC6002																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	5.0	5.0	0	0	0	0	5.0	0	0	5.0	0	3.5	0	0	0	0.2	0	0	0	0
REC	5.0	4.9	0	0	0	0	5.0	4.9	0	5.0	0	3.5	0	0	0	0.2	0	0	0	0

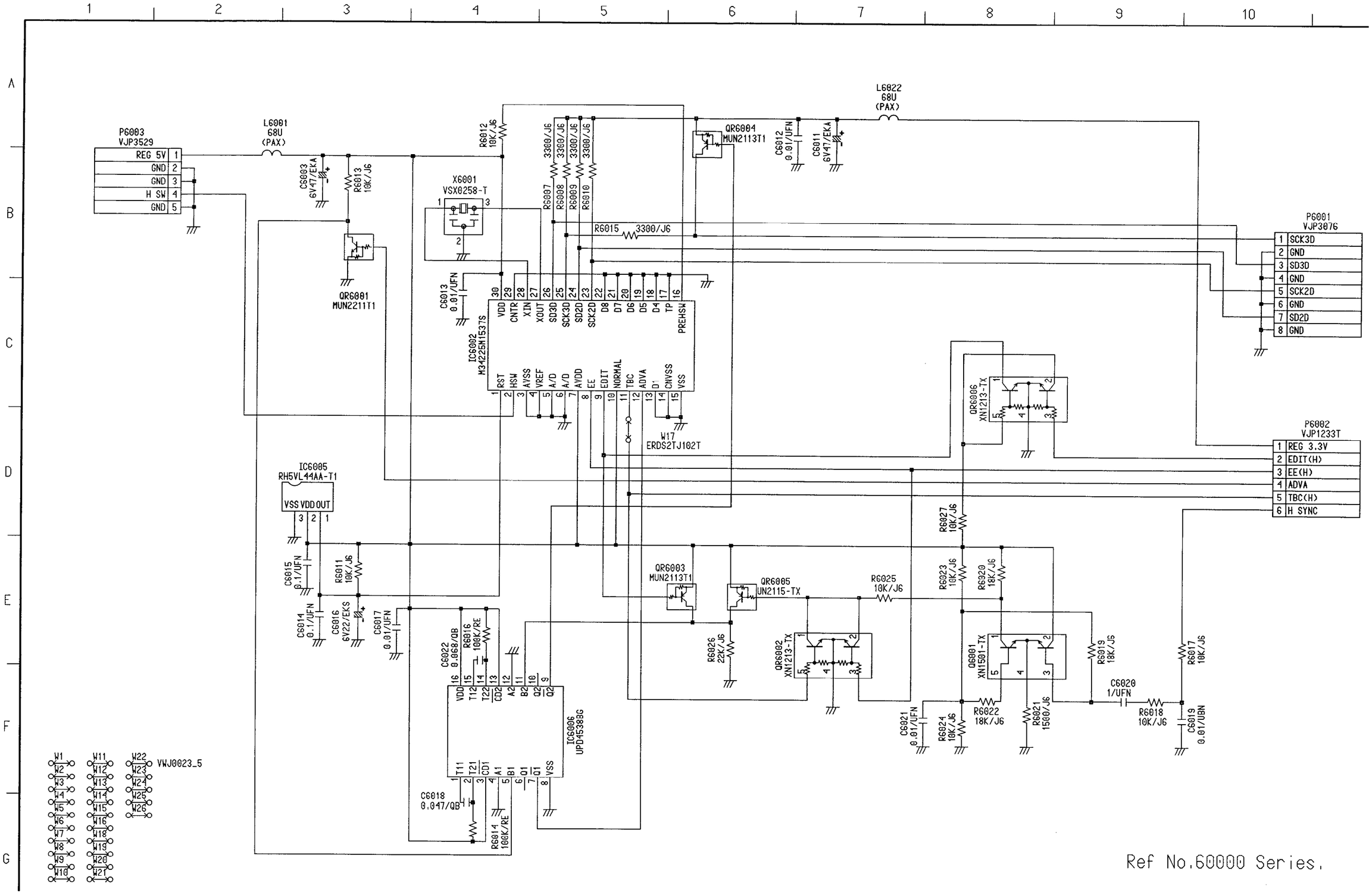
REF. NO. / MODE	IC6002										IC6005									
	21	22	23	24	25	26	27	28	29	30	1	2	3							
PLAY	0	0	0	0	3.2	0	1.7	2.0	0	4.8	5.0	0	5.0							
REC	0	0	0	0	0	0	1.7	—	0	5.0	5.0	0	5.0							

REF. NO. / MODE	IC6006																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
PLAY	0	3.7	5.0	0	4.9	1.3	3.5	0	5.0	0	5.0	0	5.0	4.9	0	5.0				
REC	0	3.7	5.0	0	4.9	1.3	3.5	0	5.0	0	5.0	0	5.0	4.9	0	5.0				

REF. NO. / MODE	Q6001					QR6001			QR6002					QR6003			QR6004			
	1	2	3	4	5	E	C	B	1	2	3	4	5	E	C	B	E	C	B	
PLAY	1.8	5.0	2.3	1.7	2.3	0	4.9	0	3.0	3.0	0	0	0	5.0	5.0	0	3.3	3.3	5.0	
REC	1.7	5.0	2.3	1.7	2.2	0	4.9	0	0	0	4.9	0	0	5.0	5.0	0	3.3	0	5.0	

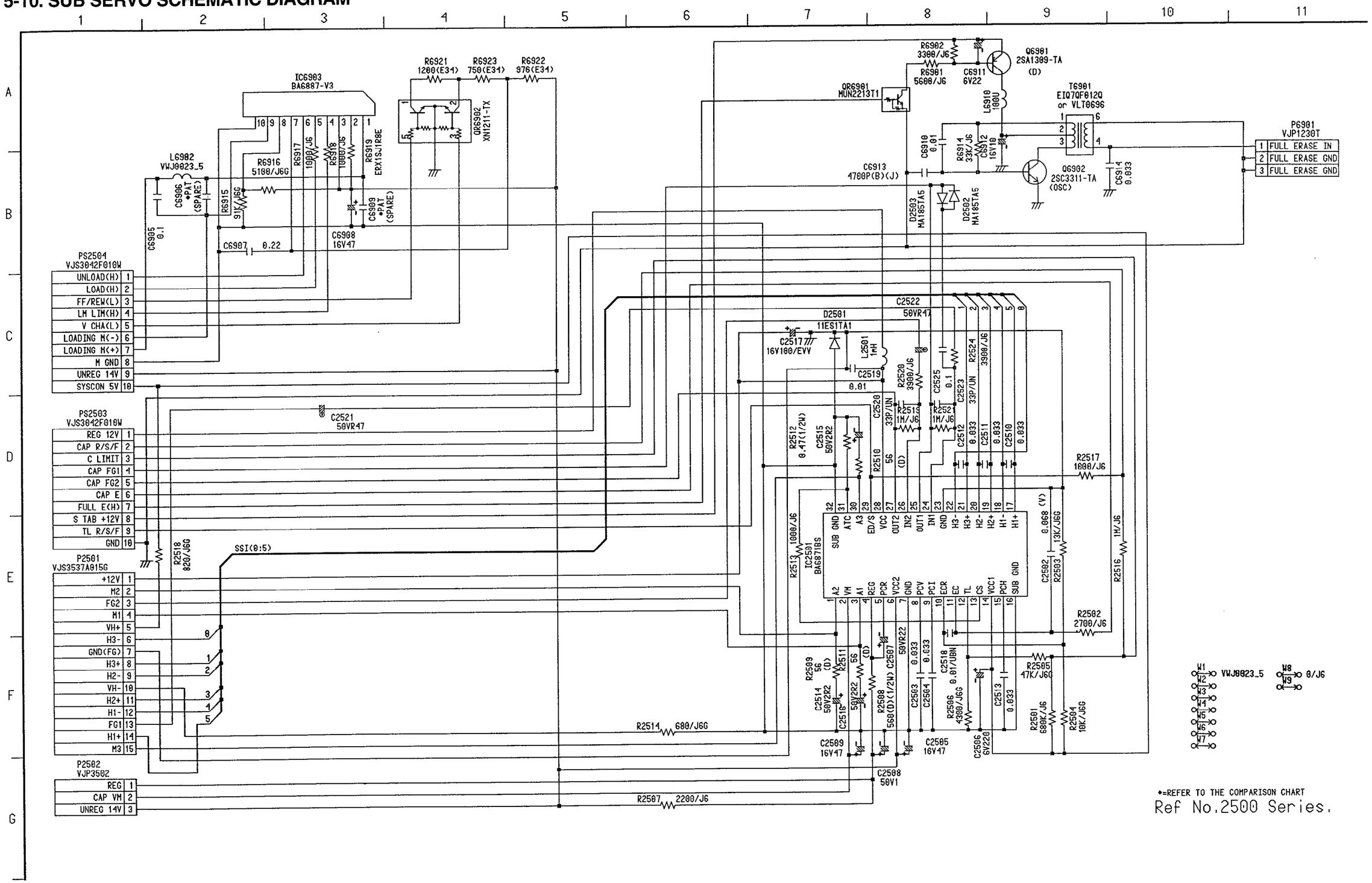
REF. NO. / MODE	QR6005			QR6006																
	E	C	B	1	2	3	4	5												
PLAY	5.0	5.0	3.0	0	4.3	0	0	4.3												
REC	5.0	5.0	0	0	4.3	0	0	4.3												

5-9. VIDEO CONTROL SCHEMATIC DIAGRAM



Ref No.60000 Series.

5-10. SUB SERVO SCHEMATIC DIAGRAM



*=REFER TO THE COMPARISON CHART

Ref No.2500 Series.

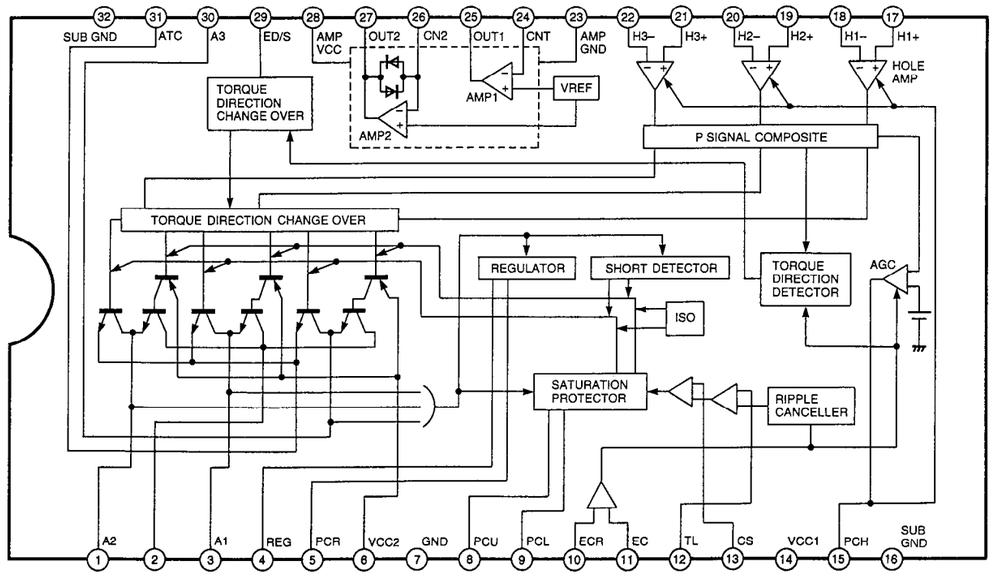
SUB SERVO C.B.A.

REF. NO. / MODE	IC2501																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	3.3	4.4	3.0	13.4	2.4	14.6	0	0.5	0.5	2.8	2.5	0.3	0	5.0	1.3	0	2.2	2.2	2.2	2.2
REC	3.0	4.4	3.0	13.4	2.3	14.6	0	0.5	0.5	2.8	2.5	0.3	0	5.0	1.3	0	2.2	2.2	2.2	2.2

REF. NO. / MODE	IC2501												QR6901			QR6902				
	21	22	23	24	25	26	27	28	29	30	31	32	E	C	B	1	2	3	4	5
PLAY	2.2	2.2	0	—	6.0	6.1	6.1	12.0	0	3.1	0	0	0	2.1	0	0	0	4.9	0	4.9
REC	2.2	2.2	0	—	6.0	6.1	6.1	12.0	0	3.1	0	0	0	0	0.5	0	0	4.9	0.5	4.9

REF. NO. / MODE	IC6903										Q6901			Q6902						
	1	2	3	4	5	6	7	8	9	10	E	C	B	E	C	B				
PLAY	0.3	14.6	14.6	0	0	0	6.3	9.6	0.8	0	1.8	0.1	1.6	0	0.1	0.1				
REC	1.1	14.6	14.6	0	0	0	6.3	9.5	1.1	0	12.1	12.1	11.4	0	12.0	0.5				

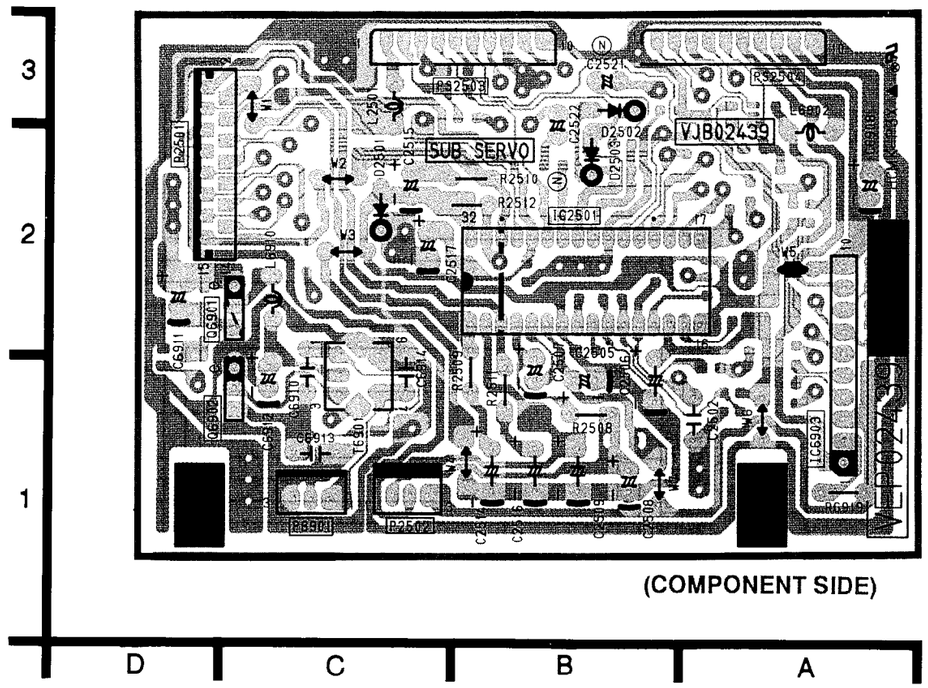
■ IC2501 (BA6871BS)



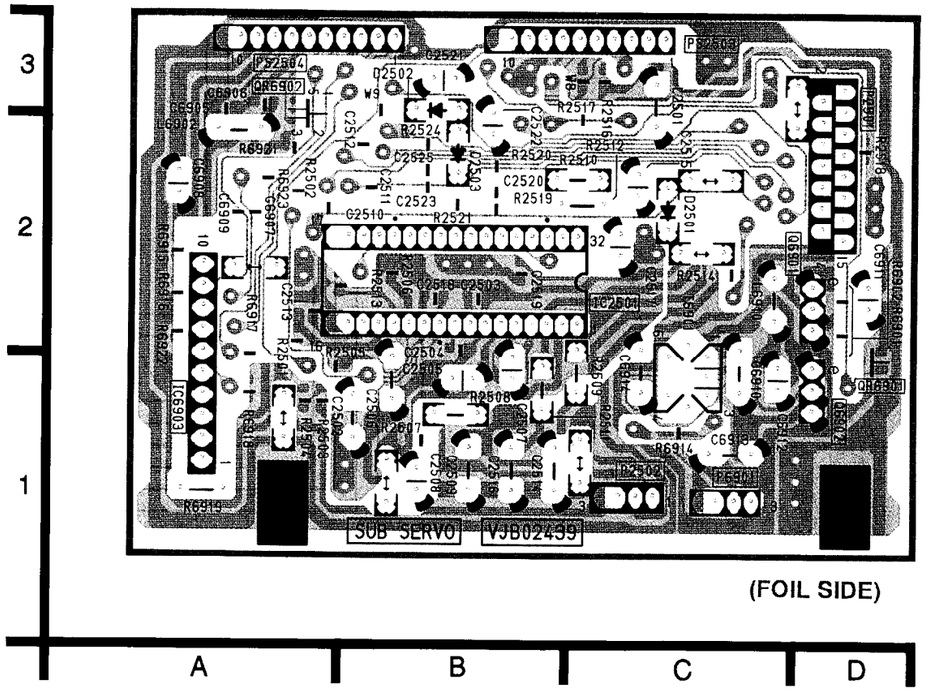
SUB SERVO C.B.A.			
Transistor		**Integrated Circuit**	
Q6901 Q6902	D-2 (F),(C) D-1 (F),(C)	IC2501 IC6903	B-2 (F),(C) A-1 (F),(C)
Transistor & Resistor		**Connector**	
QR6901 QR6902	D-1 (F) A-3 (F)	P2501 P2502 P6901 PS2503 PS2504	D-2 (F),(C) C-1 (F),(C) C-1 (F),(C) C-3 (F),(C) A-3 (F),(C)

ADDRESS INFORMATION
(F) ..... FOIL SIDE
(C) ..... COMPONENT SIDE

5-11. SUB SERVO C.B.A.

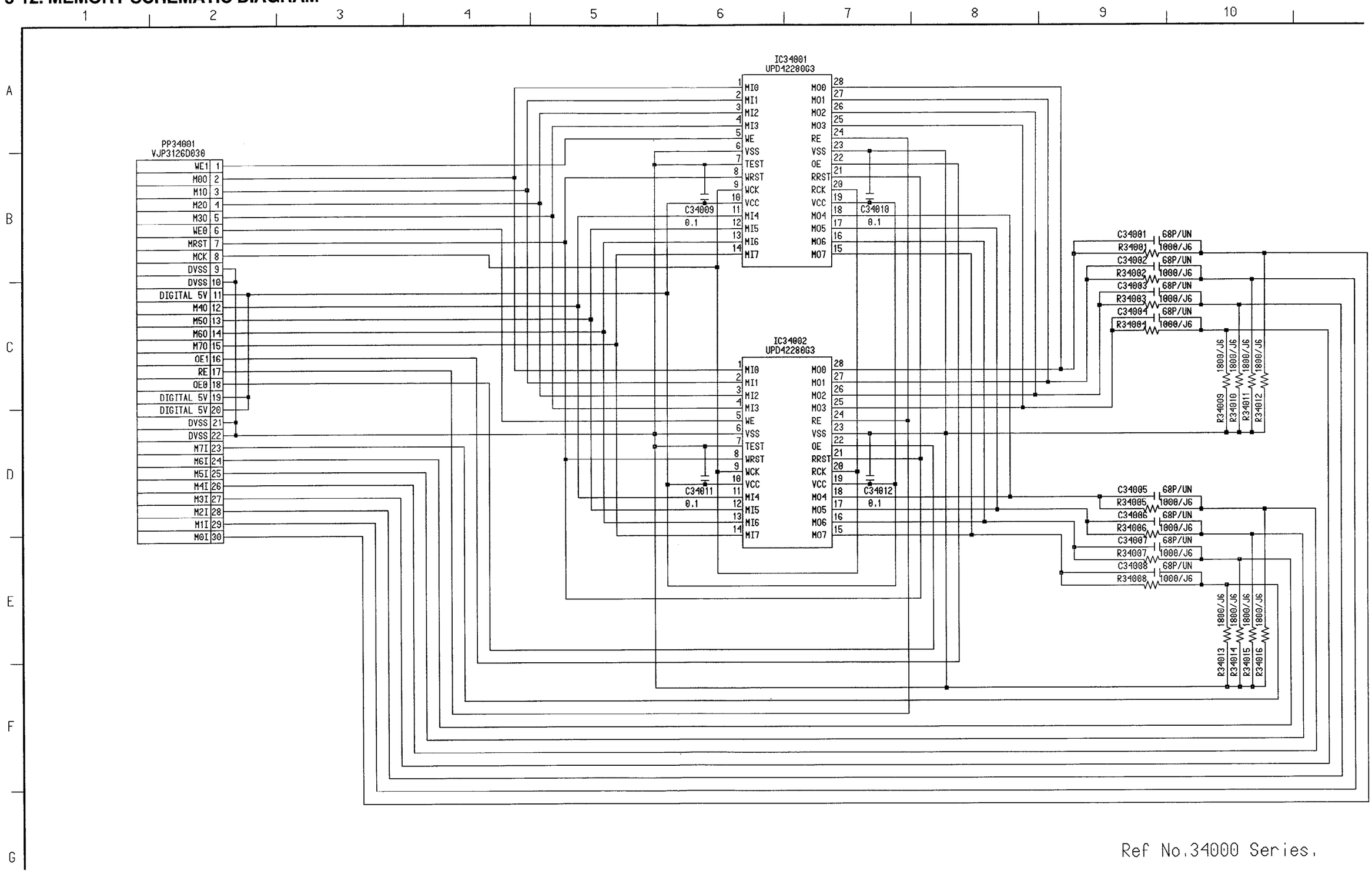


(COMPONENT SIDE)



(FOIL SIDE)

5-12. MEMORY SCHEMATIC DIAGRAM

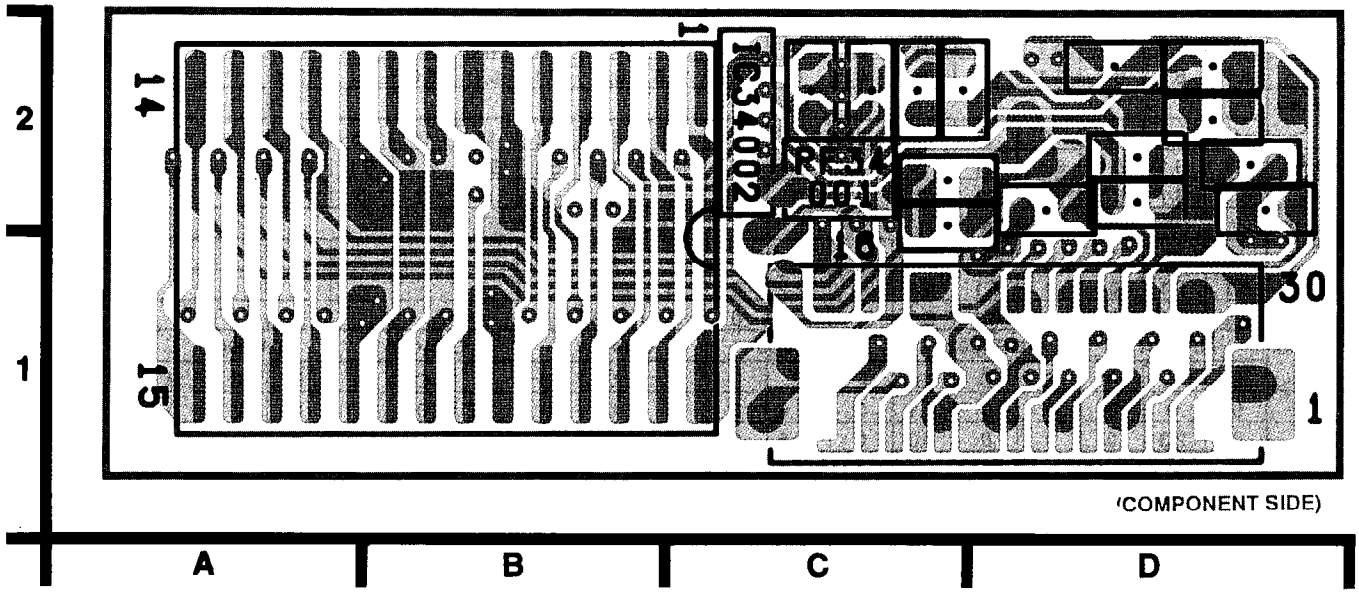


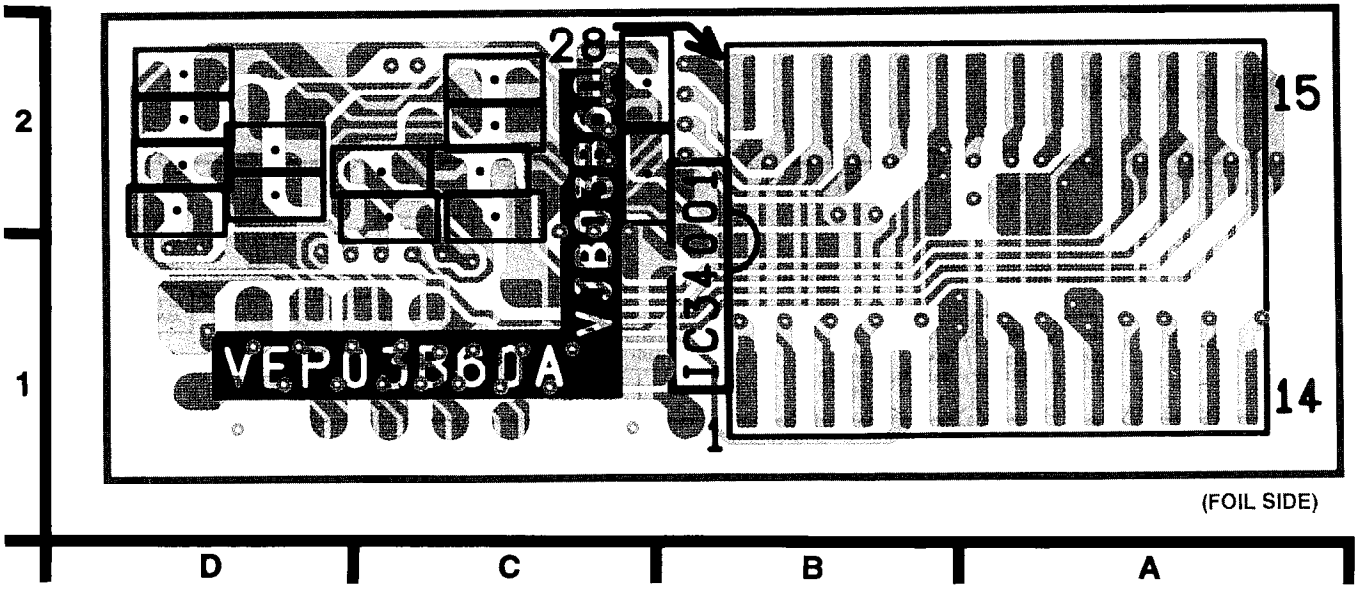
Ref No.34000 Series.

MEMORY C.B.A.

REF. NO. / MODE	IC34001																		
	1	2	3	4	5	6	7	8	9	10	11	12	13 ~ 28						
PLAY	1.6	1.6	2.0	1.4	1.8	0	0	2.1	3.3	2.7	5.1	0	—						
REC	1.8	2.0	1.3	1.6	1.6	0	1.2	3.3	5.2	1.6	2.8	2.3	—						
REF. NO. / MODE	IC34002																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	1.6	1.5	1.5	1.6	1.9	0	0	3.3	2.9	5.1	1.3	1.5	1.6	2.3	1.5	1.5	1.6	1.4	5.1	2.9
REC	1.3	1.5	1.7	1.4	3.0	0	0	3.3	2.9	5.2	1.3	1.5	1.6	2.0	2.4	2.5	1.2	1.4	5.2	2.0
REF. NO. / MODE	IC34002																		
	21	22	23	24	25	26	27	28											
PLAY	3.3	2.0	0	1.8	1.4	1.9	1.8	2.0											
REC	3.3	2.0	0	1.5	1.6	1.9	2.2	1.9											

5-13. MEMORY C.B.A.





AUDIO 1 (NORMAL) C.B.A.

REF. NO. / MODE	IC4001																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	1.3	0	0	0	8.1	9.2	0	12.2	0	0.3	0.6	0	0	0	2.0	0	0	0	0	4.1
REC	11.8	4.4	0	0	8.2	9.3	0	12.3	0	4.6	0	0	0	0	0.9	0	0.6	0	0	4.1

REF. NO. / MODE	IC4001									
	21	22	23	24	25	26	27	28	29	30
PLAY	4.1	1.1	0	0	0	0	0.3	0	0	3.7
REC	0.2	1.0	0	0	0	0	0	0	0	3.6

REF. NO. / MODE	IC4002								IC4003							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
PLAY	6.1	6.1	6.0	0	6.1	6.1	6.1	12.3	6.1	6.1	6.1	0	6.0	6.1	6.1	12.2
REC	6.1	6.1	6.0	0	6.1	6.1	6.1	12.3	6.1	6.1	6.0	0	6.0	6.1	6.1	12.3

REF. NO. / MODE	IC4004								IC4005							
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
PLAY	6.1	6.1	6.0	0	6.0	6.0	6.0	12.2	6.1	6.1	6.0	0	6.1	6.1	6.1	12.2
REC	6.1	6.1	6.0	0	6.0	6.1	6.1	12.3	6.1	6.1	6.0	0	6.1	6.1	6.1	12.3

REF. NO. / MODE	IC4006															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PLAY	6.1	6.1	6.1	6.1	6.0	0	0	0	11.6	11.7	6.1	6.1	6.1	6.0	6.1	12.2
REC	6.1	6.1	6.1	6.1	6.0	0	0	0	11.7	11.8	6.1	6.1	6.1	6.0	6.1	12.3

REF. NO. / MODE	IC4007															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
PLAY	6.1	6.1	6.1	6.1	6.1	0	0	0	0	11.7	0	6.1	6.1	6.1	6.1	12.2
REC	6.1	6.1	6.1	6.1	6.1	0	0	0	0	0	0	0	0	0	0	0

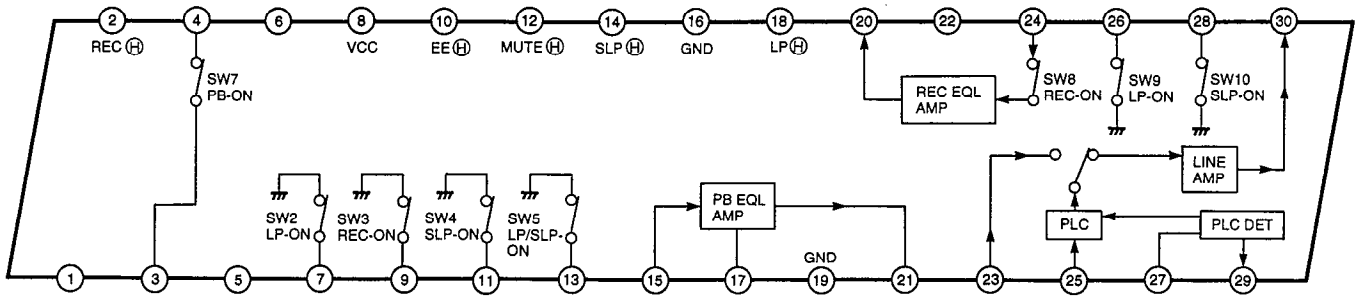
REF. NO. / MODE	IC4008								Q4001		
	1	2	3	4	5	6	7	8	E	C	B
PLAY	6.1	6.1	6.1	0	6.1	6.1	6.1	12.2	0	0	−1.0
REC	6.1	6.1	6.1	0	6.1	6.1	6.1	12.3	0	0	−0.3

REF. NO. / MODE	QR4001			QR4002			QR4003			QR4004			QR4005			QR4006		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0	0	0	0	0	4.1	0	11.6	0	0	0	0	12.2	0	12.1	0	12.1	0
REC	0	2.3	0	0	0	4.0	0	11.6	0	0	0	0	12.2	0	12.1	0	11.0	0

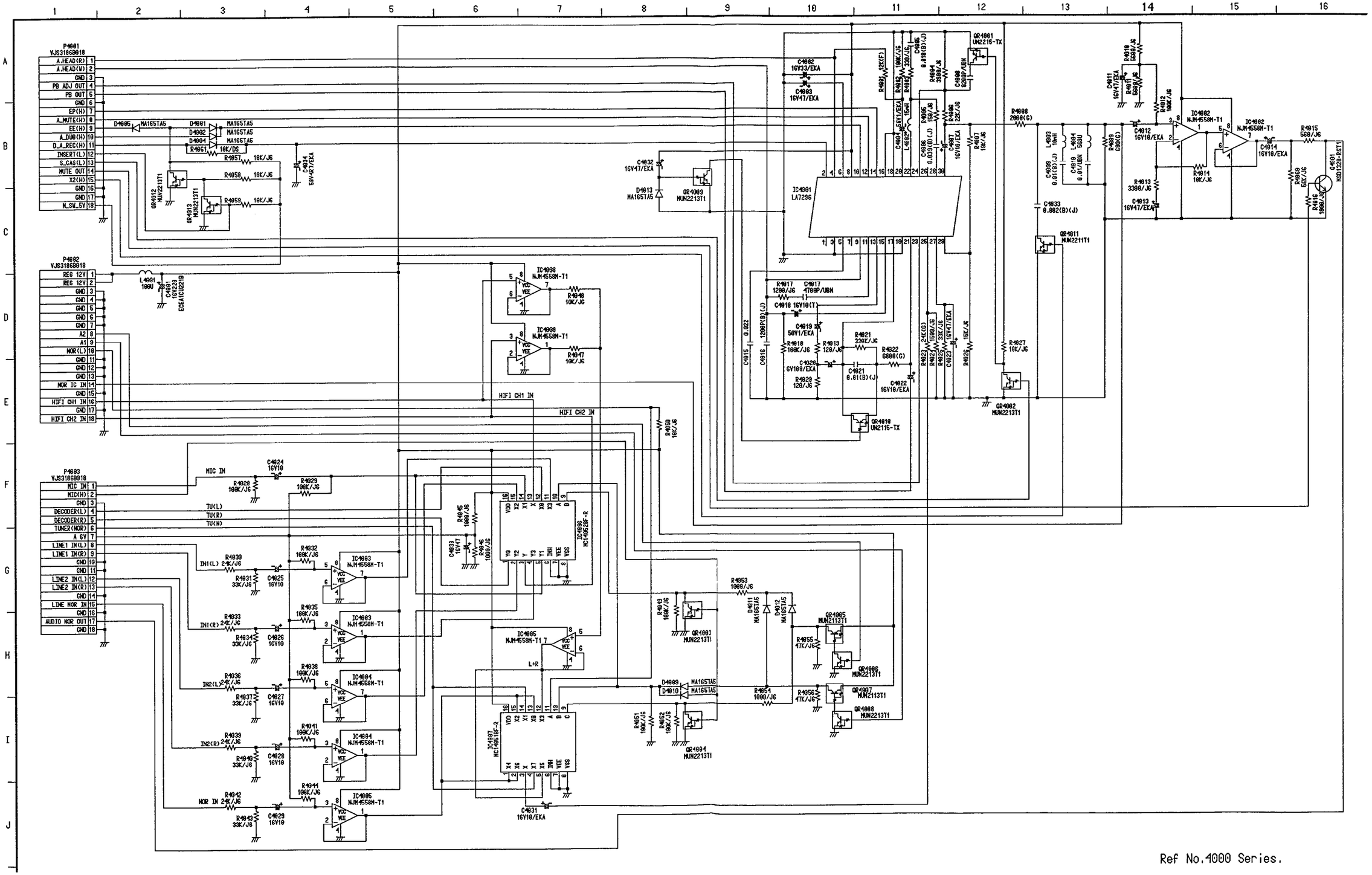
REF. NO. / MODE	QR4007			QR4008			QR4009			QR4010			QR4011			QR4012		
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	12.2	12.2	0	0	0	3.7	0	2.1	0	2.3	2.2	2.1	0	0.1	0	0	0.4	0
REC	12.2	12.2	0	0	0	3.7	0	1.5	0	0.2	0.6	0.9	0	1.2	0	0	4.9	0

REF. NO. / MODE	QR4013		
	E	C	B
PLAY	0	0	3.4
REC	0	0	3.4

■ IC4001 (LA7296)

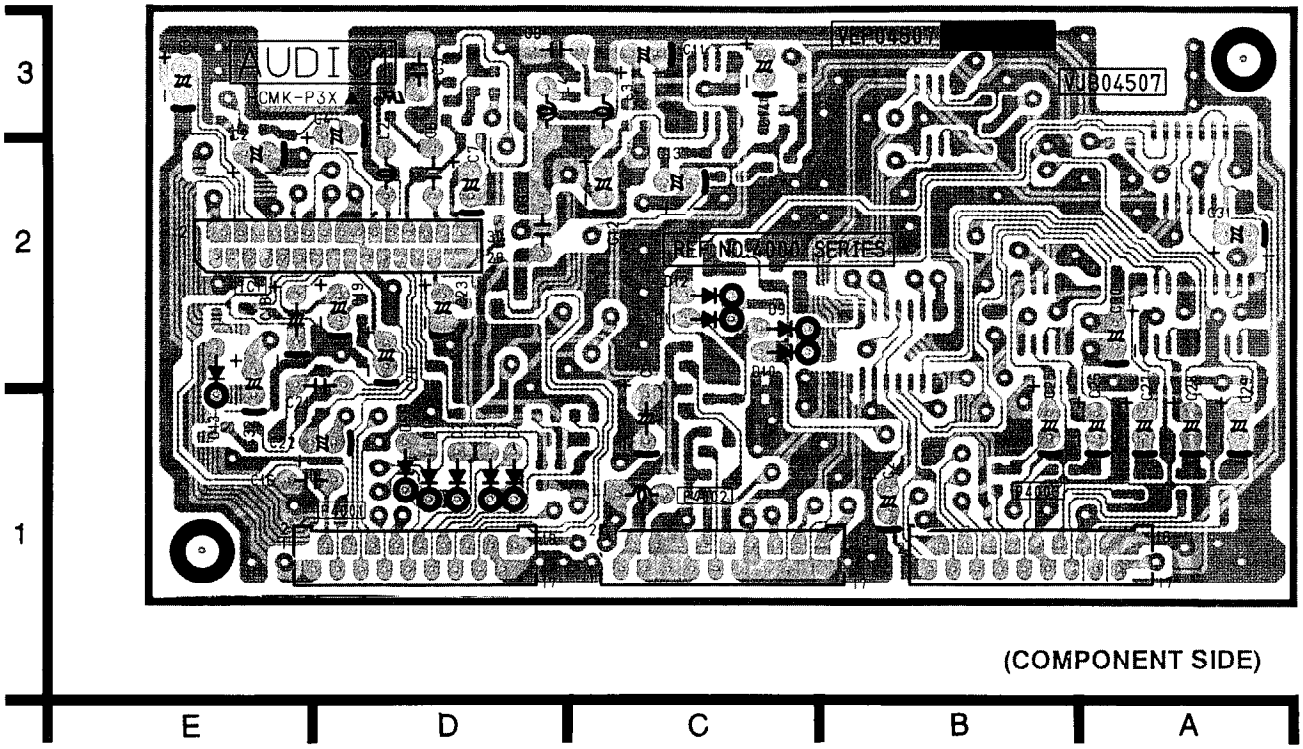


5-14. AUDIO 1 SCHEMATIC DIAGRAM

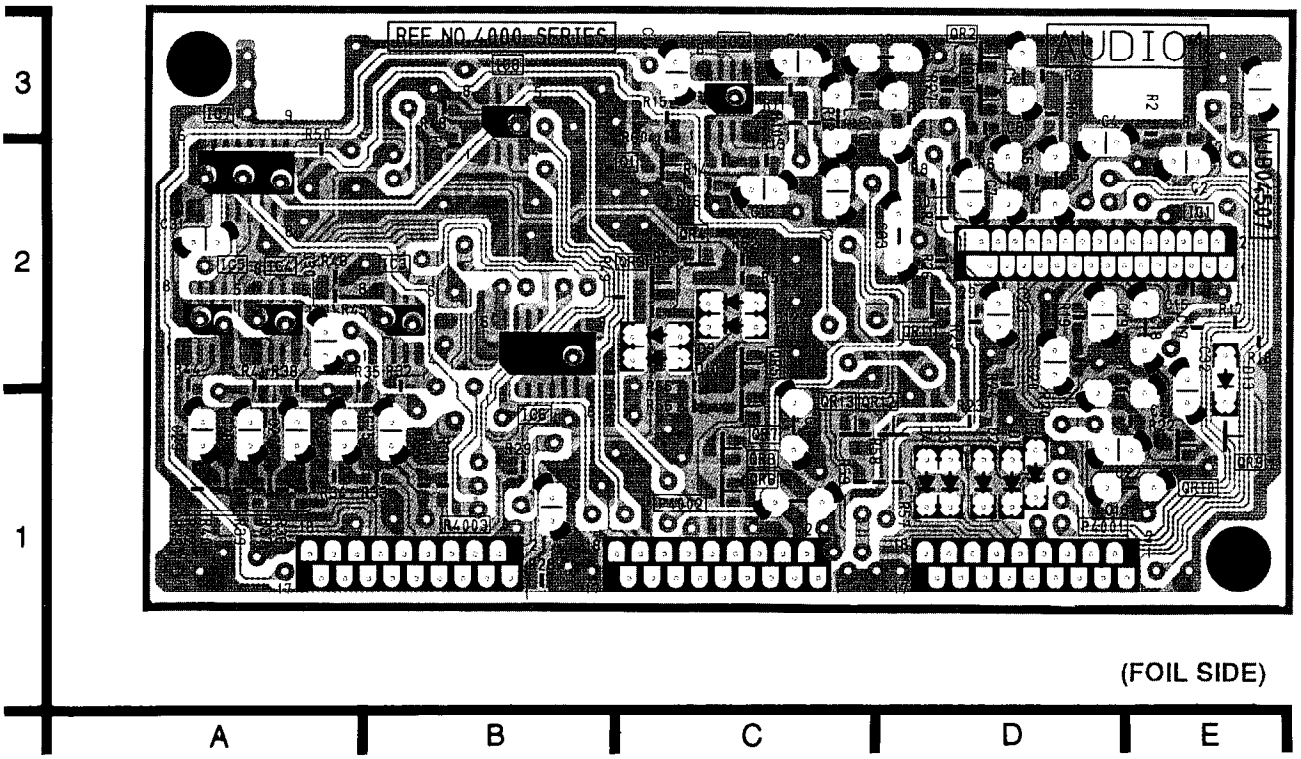


Ref No.4000 Series.

5-15. AUDIO 1 C.B.A.



(COMPONENT SIDE)

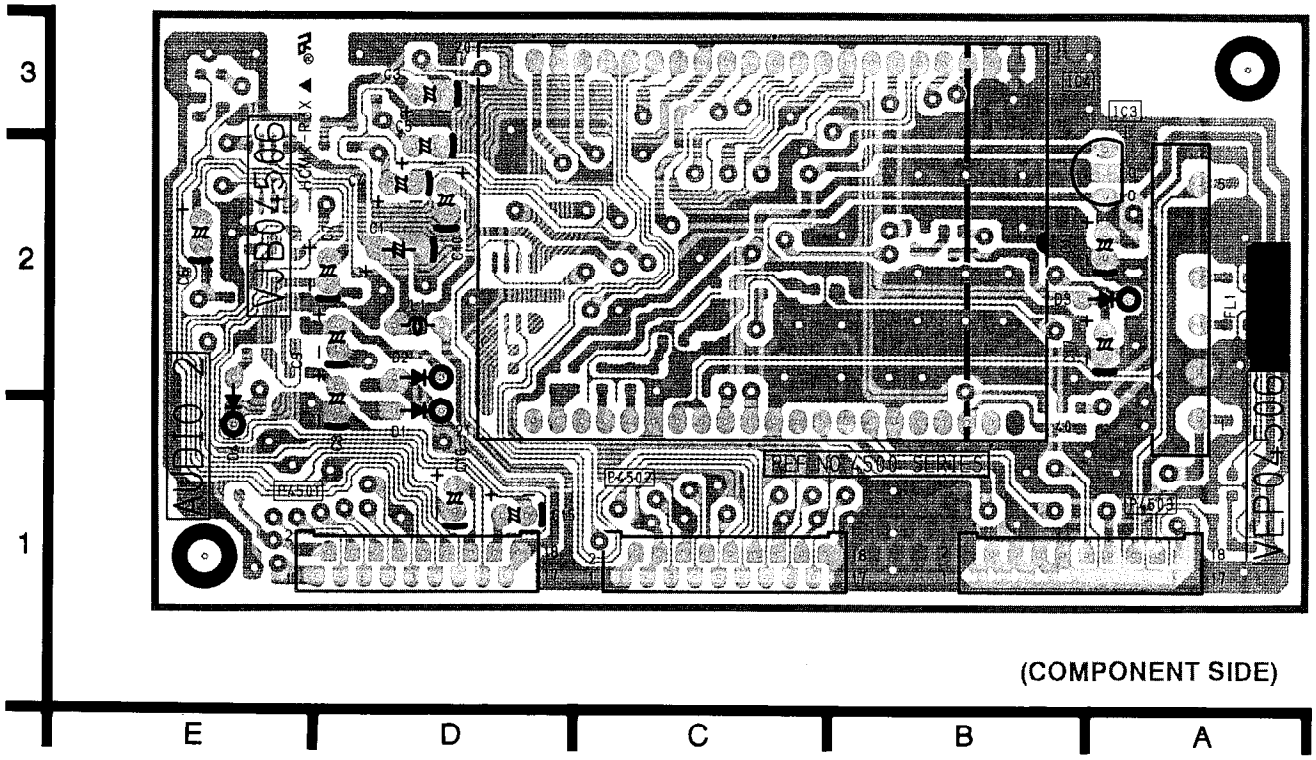


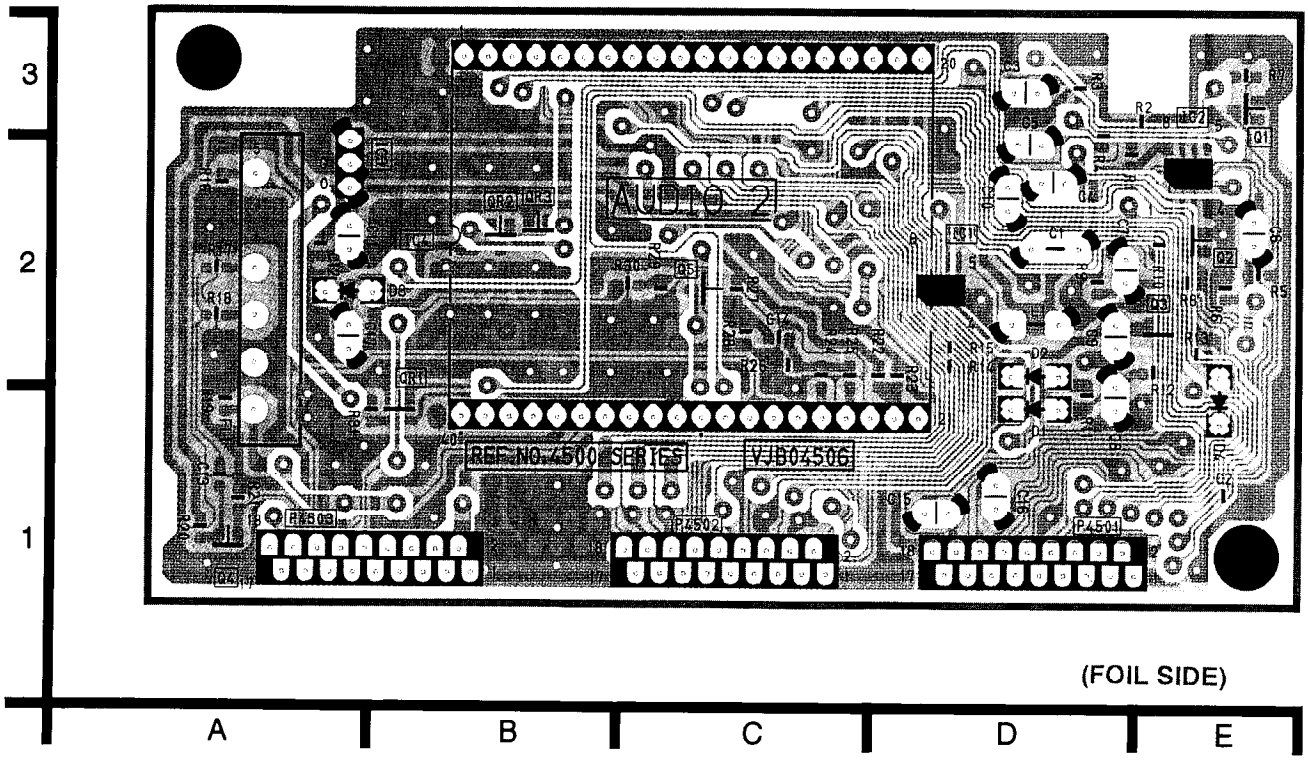
(FOIL SIDE)

AUDIO 1 C.B.A.							
Transistor		QR4004	C-2 (F)	QR4013	C-1 (F)	IC4006	B-2 (F)
Q4001	C-2 (F)	QR4005	C-2 (F)			IC4007	A-2 (F)
		QR4006	C-1 (F)	**Integrated Circuit**		IC4008	B-3 (F)
Transistor & Resistor		QR4007	C-1 (F)				
		QR4008	C-1 (F)	IC4001	D-2 (F),(C)	**Connector**	
QR4001	D-3 (F)	QR4009	E-1 (F)	IC4002	C-3 (F)		
QR4002	D-3 (F)	QR4010	E-1 (F)	IC4003	B-2 (F)	P4001	D-1 (F),(C)
QR4003	C-2 (F)	QR4011	D-2 (F)	IC4004	A-2 (F)	P4002	C-1 (F),(C)
		QR4012	D-1 (F)	IC4005	A-2 (F)	P4003	B-1 (F),(C)

ADDRESS INFORMATION
(F) ..... FOIL SIDE
(C) ..... COMPONENT SIDE

5-16. AUDIO 2 C.B.A.





AUDIO 2 C.B.A.							
Transistor		Transistor & Resistor		Integrated Circuit		Connector	
Q4501	E-3 (F)	QR4501	B-1 (F)	IC4501	D-2 (F)	P4501	D-1 (F),(C)
Q4502	E-2 (F)	QR4502	B-2 (F)	IC4502	E-2 (F)	P4502	C-1 (F),(C)
Q4503	E-2 (F)	QR4503	B-2 (F)	IC4503	A-2 (F),(C)	P4503	A-1 (F),(C)
Q4504	A-1 (F)			IC4504	C-2 (F),(C)		
Q4505	C-2 (F)						

ADDRESS INFORMATION
(F) ..... FOIL SIDE
(C) ..... COMPONENT SIDE

5-17. AUDIO 2 SCHEMATIC DIAGRAM

REF. NO.	Q4501			Q4502			Q4503			Q4504			Q4505		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0	0	0	0	0	0	14.5	-0.2	14.4	2.1	0	1.5	1.8	5.0	2.4
REC	0	0	-0.5	0	0	-0.8	14.5	-0.7	14.4	3.5	0	2.9	1.8	5.0	2.4

REF. NO.	QR4501			QR4502			QR4503		
MODE	E	C	B	E	C	B	E	C	B
PLAY	0	0	4.1	14.7	0.1	14.5	0	14.5	-0.7
REC	0	0	4.1	14.6	0.3	14.5	0	14.5	-0.8

REF. NO.	IC4501								IC4502								IC4503			
MODE	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	I	G	O	
PLAY	10.9	0	0	0	4.8	4.8	4.8	12.2	6.1	6.1	6.0	0	6.0	0.2	6.1	12.2	12.2	0	5.0	
REC	11.0	0	0	0	5.0	5.0	5.0	12.2	6.1	6.1	6.0	0	6.0	6.1	6.1	12.3	12.3	0	5.0	

REF. NO.	IC4504																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	0	5.0	0	-0.7	0	0	0	0	0.4	0.4	12.2	0	0	4.8	4.5	4.5	6.1	0	6.1
REC	0	0	5.0	0	-0.5	0	0	0	0	0.4	0.4	12.3	0	0	5.0	4.6	4.6	6.1	0	6.1

REF. NO.	IC4504																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	0.4	0	0.4	0	0	0	0	0	0	5.0	0	3.2	5.0	2.8	0	0	5.0	0.3	0	0
REC	1.1	0	1.0	0	0	0	0	0	4.9	5.0	0	0	0	1.5	0	0	5.0	0.8	0	0.4

P4501 VJS3186B018: FM MUTE(H) 1, MODE SEL 2, MUTE OUT 3, R CH(L) 4, L CH(L) 5, MIX(H) 6, A DUB P(L) 7, EE(H) 8, GND 9, H.P. OUT(L) 10, GND 11, H.P. OUT(R) 12, GND 13, METER LCH 14, GND 15, METER RCH 16, UNREG 14V 17, UNREG 14V 18

P4502 VJS3186B018: REG 12V 1, REG 12V 2, GND 3, GND 4, MOR IC IN 5, GND 6, HIFI CH1 IN 7, GND 8, HIFI CH2 IN 9, REC VR(L) 10, REC VR(C) 11, REC VR(R) 12, A RFC OUT 13, GND 14, LINE OUT(L) 15, GND 16, LINE OUT(R) 17, GND 18

P4503 VJS3186B018: GND 1, GND 2, GND 3, GND 4, GND 5, GND 6, GND 7, GND 8, GND 9, REC IN 10, GND 11, CH1 ENV 12, GND 13, CH2 ENV 14, GND 15, RF OUT 16, GND 17, A HSW 18

C4502 1000P/UBN

L4501 100U

C4501 16V220 ECEA1CU2210

C4503 16V47/EKA

R4501 560Ω/J6

R4504 100K/J6

R4502 560Ω/J6

R4503 100K/J6

C4515 16V10/EKA

C4516 16V10/EKA

IC4502 NJM4558M-T1

C4506 16V100/EKA

R4505 47/J6

R4506 47K/J6

R4507 10K/J6

Q4501 MSD1328-RST1

C4501 50V1/EKA

C4505 50V1/EKA

IC4502 NJM4558M-T1

C4507 16V100/EKA

R4508 47/J6

R4509 47K/J6

R4510 10K/J6

Q4502 MSD1328-RST1

IC4501 AN13588

IC4501 AN13588

R4511 56K/J6

D4531 MA165TASVT

D4502 MA165TASVT

R4512 100K/J6

R4513 10K/J6

Q4503 2SB710A-RSTX

C4508 16V10/EKA

C4509 16V100/EKA

D4504 MA165TA5VT

IC4503 UPC78L05J

C4511 6V100/EKA

C4512 0.01/UBN

R4531 10K/J6

Q4504 UN2113T1

C4517 50V1/EKA

D4503 MA165TA6VT

Q4503 UN2216-TX

Q4504 UN2113T1

IC4504 VEP84353B

C4518 6V100/EKA

FL4501 VLF8696

R4517 1500/J6

R4518 1500/J6

R4528 820/J6

C4513 0.01/UBN

Q4504 MSB709-RT1

R4516 1800/J6

R4519 1800/J6

R4521 1800/J6

R4522 22K/J6

R4524 10K(G)

R4525 3300(G)

R4527 5600/J6

C4514 0.01/UBN

Q4505 MSD601-RT1

R4530 33/J6

R4523 0/J6

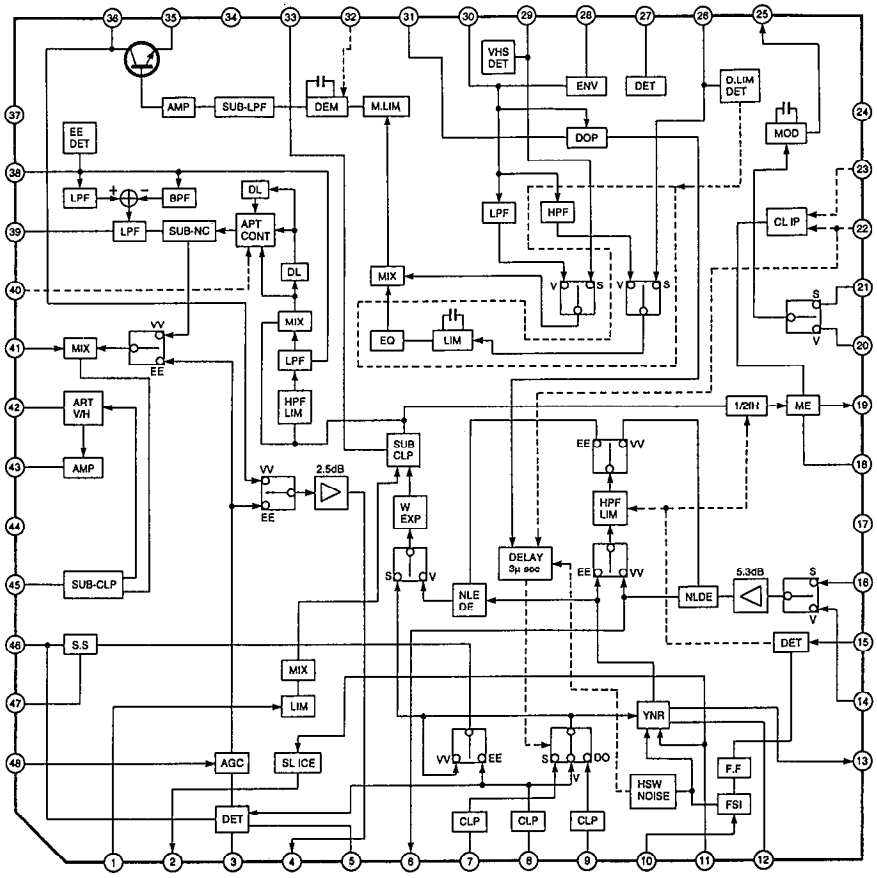
R4526 2200/J6

R4528 5600/J6

R4529 1800/J6

Ref No.4500 Series.

■ IC3601 (AN3250FAP)



RF AMP C.B.A.

REF. NO.	IC3101																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	3.6	2.0	4.8	2.9	0.9	2.6	0	2.0	1.3	1.2	2.7	1.2	0	3.6	0	0.3	2.9	2.8	0.4	4.9
REC	3.6	2.0	4.8	2.9	0.9	2.6	0	2.0	1.4	1.2	2.7	1.2	0	3.6	0	0.3	2.9	2.8	2.4	4.9

REF. NO.	IC3101																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32								
PLAY	2.4	0	0.1	4.9	4.8	1.0	0.1	2.5	2.6	3.4	1.4	3.2								
REC	2.4	0	1.7	4.9	4.8	1.0	0.1	2.5	2.7	3.4	1.4	3.2								

REF. NO.	IC3502																			
MODE	1	2	3	4	5	6	7	8	9											
PLAY	7.5	6.9	12.2	7.7	0	8.4	4.9	0.3	0											
REC	7.5	6.9	12.2	7.7	0	8.4	1.9	0.3	0											

REF. NO.	IC3601																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	1.8	2.4	2.1	0.7	0.3	2.7	2.1	2.1	2.1	2.2	2.6	1.9	1.4	1.9	0	1.8	4.6	0.8	0.8	0.7
REC	1.8	2.4	2.1	0.6	0.2	2.7	2.1	2.1	2.1	2.2	2.6	1.9	1.4	1.9	0	1.8	4.6	0.8	0.9	0.9

REF. NO.	IC3601																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	0.8	1.3	0.6	4.6	4.3	2.5	0	1.7	0.6	2.7	0	2.9	2.6	4.6	1.2	1.2	0	1.2	1.9	2.7
REC	0.8	1.3	0.6	4.6	4.3	2.5	0	1.7	0.6	2.7	0	3.1	2.6	4.6	1.3	1.2	0	1.2	1.9	2.7

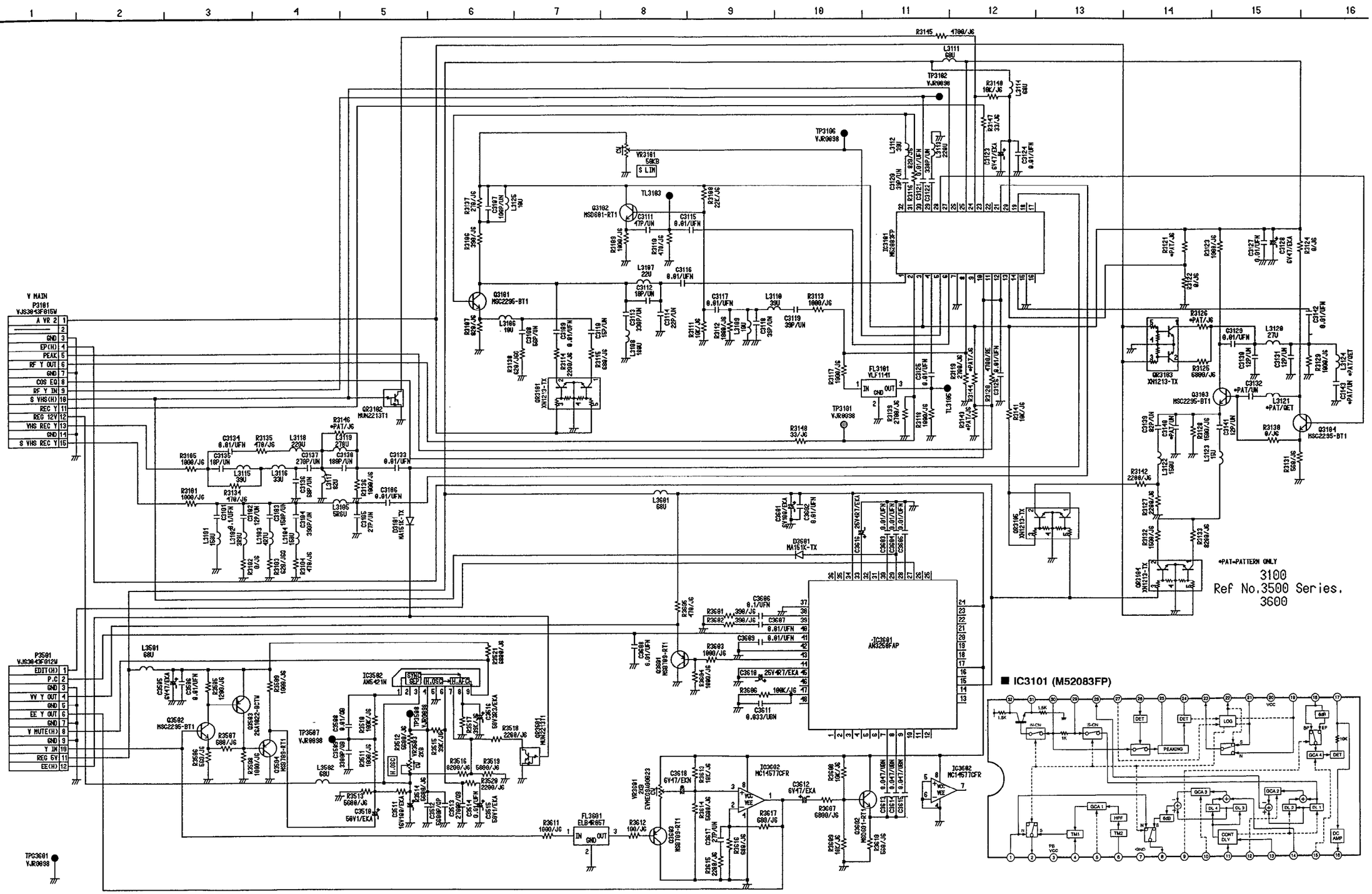
REF. NO.	IC3601								IC3602											
MODE	41	42	43	44	45	46	47	48	1	2	3	4	5	6	7	8				
PLAY	3.0	0	2.4	0	2.4	0.2	2.3	3.0	3.2	1.6	1.6	0	0	0	2.6	4.6				
REC	3.0	0	2.5	0	2.3	0.2	2.3	3.0	3.2	1.6	1.6	0	0	0	2.6	4.6				

REF. NO.	Q3101			Q3102			Q3103			Q3104			Q3502			Q3503				
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	0.7	4.4	1.4	0.8	4.8	1.4	1.0	4.0	1.8	1.8	4.8	2.5	1.3	4.2	2.0	4.9	2.5	4.2		
REC	0.7	4.4	1.4	0.8	4.8	1.4	1.1	4.0	1.8	1.8	4.8	2.5	1.3	4.2	2.0	4.9	2.5	4.2		

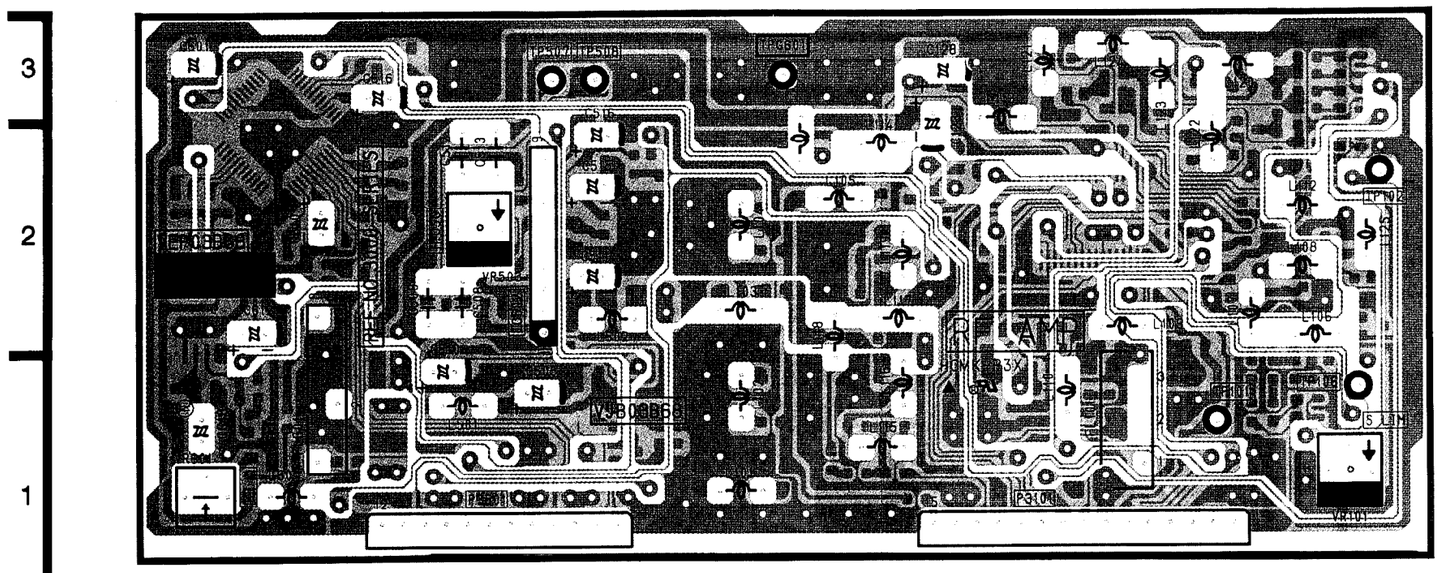
REF. NO.	Q3504			Q3601			Q3602			Q3603			QR3101					QR3102		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	1	2	3	4	5	E	C	B
PLAY	3.2	0	2.5	1.8	0	1.2	1.6	4.6	2.2	2.6	0	2.0	0.1	0	0	0	0	0	4.9	0.1
REC	3.2	0	2.5	1.9	0	1.2	1.6	4.6	2.2	2.6	0	2.0	0.4	0	0	0	0	0	4.9	0.1

REF. NO.	QR3103					QR3104					QR3105					QR3501				
MODE	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	E	C	B		
PLAY	0.6	0	0	0	0	0.1	0.1	0	0.2	0	0.2	0	4.1	0	0	0	4.9	0		
REC	0.4	0	0	0	0	0.4	0.5	0	0	0	4.1	0	4.1	0	0	0	0	4.8		

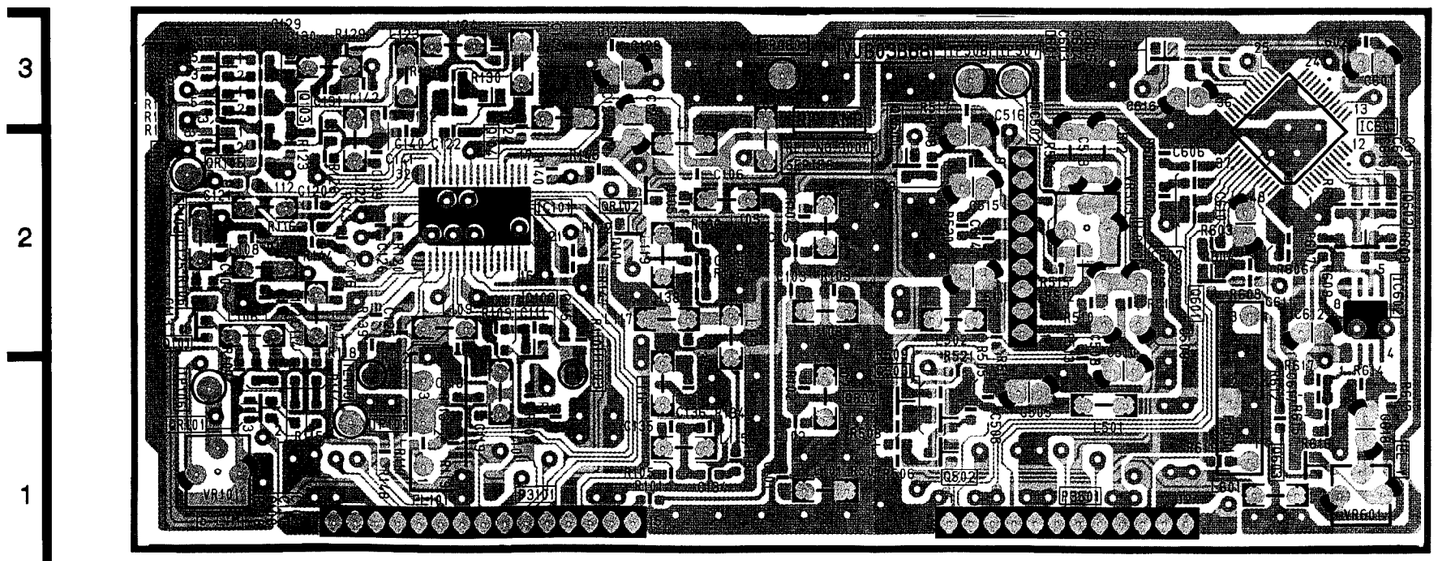
5-18. RF AMP SCHEMATIC DIAGRAM



5-19. RF AMP C.B.A.



(COMPONENT SIDE)



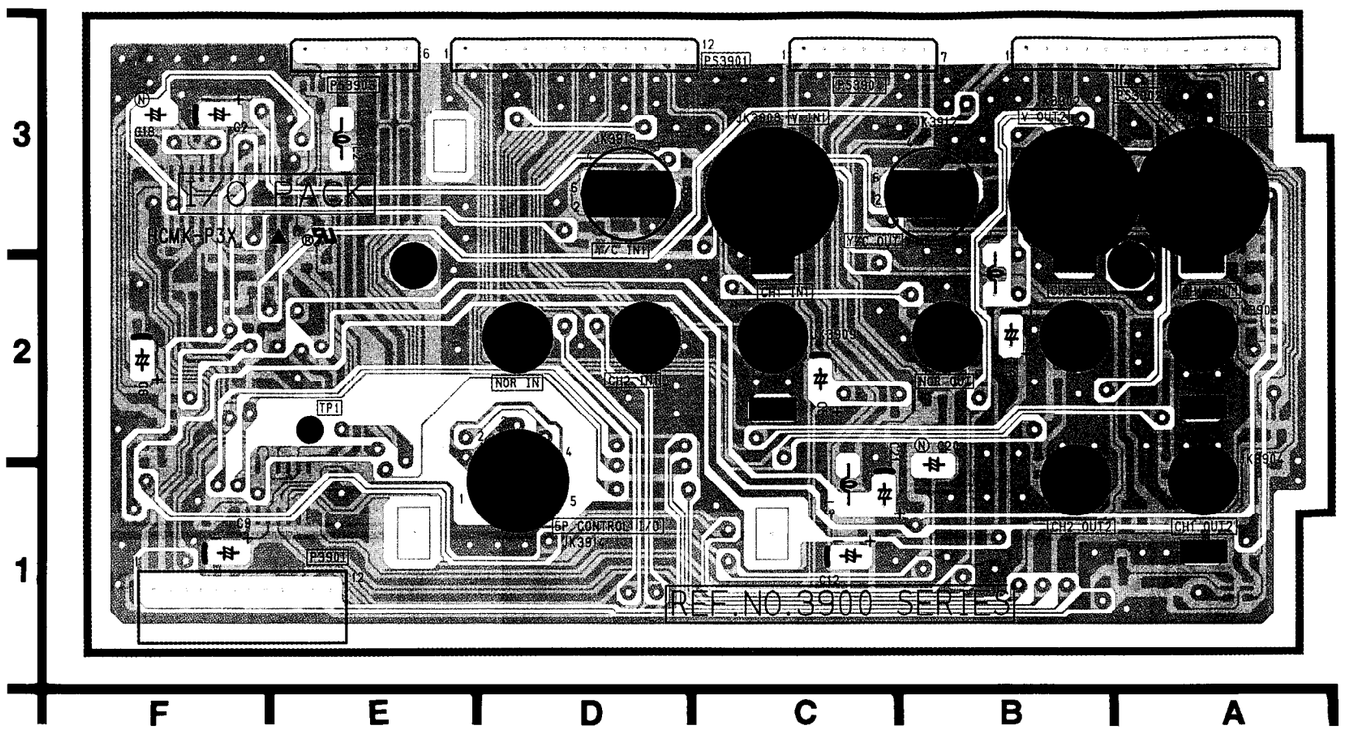
(FOIL SIDE)

RF AMP C.B.A.	
Transistor	
Q3101	A-2 (F)
Q3102	B-2 (F)
Q3103	A-2 (F)
Q3104	B-3 (F)
Q3502	D-1 (F)
Q3503	D-1 (F)
Q3504	D-1 (F)
Q3601	E-2 (F)
Q3602	F-2 (F)
Q3603	F-1 (F)
Transistor & Resistor	
QR3101	A-1 (F)
QR3102	C-2 (F)
QR3103	A-3 (F)
QR3104	A-3 (F)
QR3105	A-2 (F)
QR3501	D-2 (F)
Integrated Circuit	
IC3101	B-2 (F)
IC3502	E-2 (F),(C)
IC3601	F-2 (F)
IC3602	F-2 (F)
Test Point	
TP3101	B-2 (F),(C)
TP3102	A-2 (F),(C)
TP3106	A-1 (F),(C)
TP3507	D-3 (F),(C)
TP3508	D-3 (F),(C)
TPG3601	C-3 (F),(C)
Test Land	
TL3103	C-1 (F)
TL3105	B-1 (F)
Adjustment	
VR3101	A-1 (F),(C)
VR3503	E-2 (F),(C)
VR3601	F-1 (F),(C)
Connector	
P3101	B-1 (F),(C)
P3501	E-1 (F),(C)

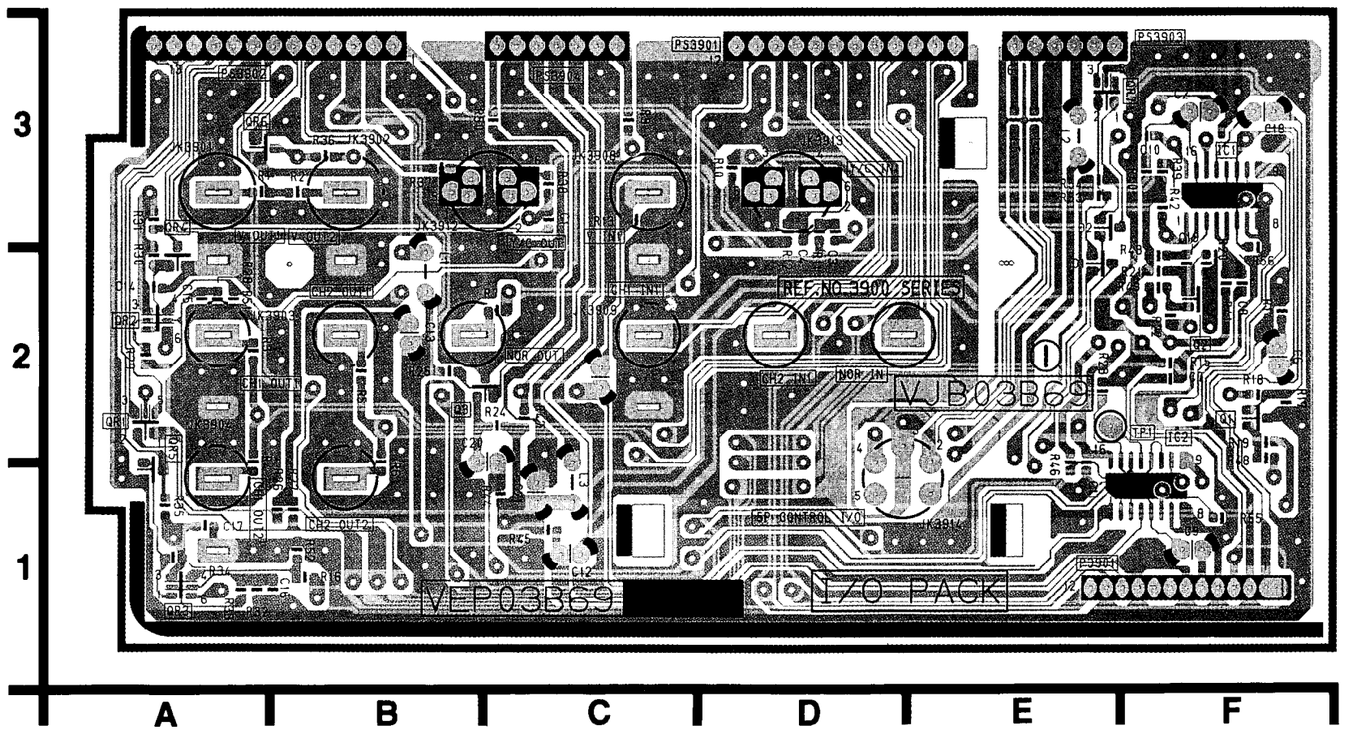
ADDRESS INFORMATION
(F) ..... FOIL SIDE
(C) ..... COMPONENT SIDE

5-20. INPUT/OUTPUT C.B.A.

(COMPONENT SIDE)



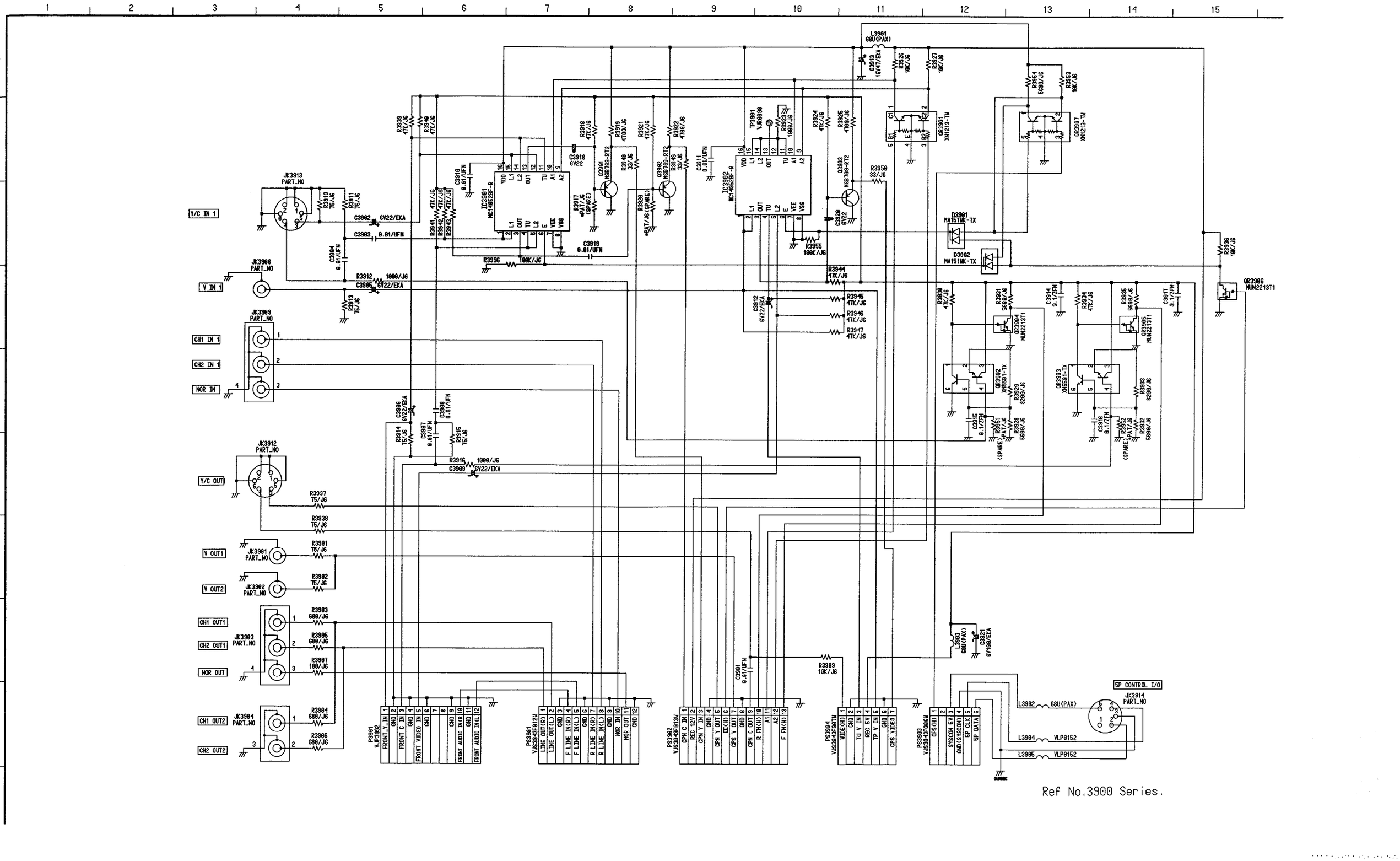
(FOIL SIDE)



I/O PACK C.B.A.	
Transistor	
Q3901	F-2 (F)
Q3902	F-2 (F)
Q3903	C-2 (F)
Transistor & Resistor	
QR3901	A-2 (F)
QR3902	A-2 (F)
QR3903	A-1 (F)
QR3904	A-3 (F)
QR3905	A-2 (F)
QR3906	A-3 (F)
QR3907	E-3 (F)
Integrated Circuit	
IC3901	F-3 (F)
IC3902	F-1 (F)
Test Point	
TP3901	E-2 (F),(C)
Connector	
P3901	F-1 (F),(C)
PS3901	D-3 (F),(C)
PS3902	A-3 (F),(C)
PS3903	E-3 (F),(C)
PS3904	C-3 (F),(C)

ADDRESS INFORMATION
(F) ..... FOIL SIDE
(C) ..... COMPONENT SIDE

5-21. INPUT/OUTPUT SCHEMATIC DIAGRAM


Y/C IN 1
V IN 1
CH1 IN 1
CH2 IN 1
NOR IN
Y/C OUT
V OUT1
V OUT2
CH1 OUT1
CH2 OUT1
NOR OUT
CH1 OUT2
CH2 OUT2
SP CONTROL I/O
JK3913 PART_NO
JK3908 PART_NO
JK3909 PART_NO
JK3912 PART_NO
JK3901 PART_NO
JK3902 PART_NO
JK3903 PART_NO
JK3904 PART_NO
JK3914 PART_NO
IC3901 MC14052BF-R
IC3902 MC14052BF-R
TP3901 VJR0898
L3901 68U(PAX)
L3902 68U(PAX)
L3903 68U(PAX)
L3904 VLP0152
L3905 VLP0152
D3901 MA151WK-TX
D3902 MA151WK-TX
Q3901 MSB709-RT2
Q3902 MSB709-RT2
Q3903 MSB709-RT2
QR3901 XN1213-TU
QR3902 XN5501-TX
QR3903 XN5501-TX
QR3904 MUN2213T1
QR3905 MUN2213T1
QR3906 MUN2213T1
QR3907 XN1213-TU
P3901 VJP3902
P3902 VJS3845F012M
P3903 VJS3845F012W
P3904 VJS3845F013W
P3905 VJS3845F006W
P3906 VJS3845F006W
R3901 75/J6
R3902 75/J6
R3903 680/J6
R3905 680/J6
R3907 100/J6
R3911 75/J6
R3912 1000/J6
R3913 75/J6
R3914 75/J6
R3915 75/J6
R3916 1000/J6
R3937 75/J6
R3938 75/J6
R3939 47K/J6
R3940 47K/J6
R3941 47K/J6
R3942 47K/J6
R3943 47K/J6
R3944 47K/J6
R3945 47K/J6
R3946 47K/J6
R3947 47K/J6
R3948 33/J6
R3949 33/J6
R3950 33/J6
R3951 100K/J6
R3952 100K/J6
R3953 10K/J6
R3954 5600/J6
R3955 100K/J6
R3956 100K/J6
R3957 10K/J6
R3958 47K/J6
R3959 33/J6
R3960 10K/J6
R3961 4PART/J6 (SPARE)
R3962 4PART/J6 (SPARE)
R3963 10K/J6
R3964 10K/J6
R3965 10K/J6
R3966 10K/J6
R3967 10K/J6
R3968 10K/J6
R3969 10K/J6
R3970 10K/J6
R3971 10K/J6
R3972 10K/J6
R3973 10K/J6
R3974 10K/J6
R3975 10K/J6
R3976 10K/J6
R3977 10K/J6
R3978 10K/J6
R3979 10K/J6
R3980 10K/J6
R3981 10K/J6
R3982 10K/J6
R3983 10K/J6
R3984 10K/J6
R3985 10K/J6
R3986 10K/J6
R3987 10K/J6
R3988 10K/J6
R3989 10K/J6
C3901 0.01/UFN
C3902 6V22/EKA
C3903 0.01/UFN
C3904 0.01/UFN
C3905 6V22/EKA
C3906 6V22/EKA
C3907 0.01/UFN
C3908 0.01/UFN
C3909 0.01/UFN
C3910 0.01/UFN
C3911 0.01/UFN
C3912 6V22/EKA
C3913 16V47/EKA
C3914 0.1/ZFN
C3915 0.1/ZFN
C3916 0.1/ZFN
C3917 0.1/ZFN
C3918 6V22
C3919 0.01/UFN
C3920 6V22
C3921 6V100/EKA
C3922 6V22
C3923 6V22
C3924 6V22
C3925 6V22
C3926 6V22
C3927 6V22
C3928 6V22
C3929 6V22
C3930 6V22
C3931 6V22
C3932 6V22
C3933 6V22
C3934 6V22
C3935 6V22
C3936 6V22
C3937 6V22
C3938 6V22
C3939 6V22
C3940 6V22
C3941 6V22
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C3943 6V22
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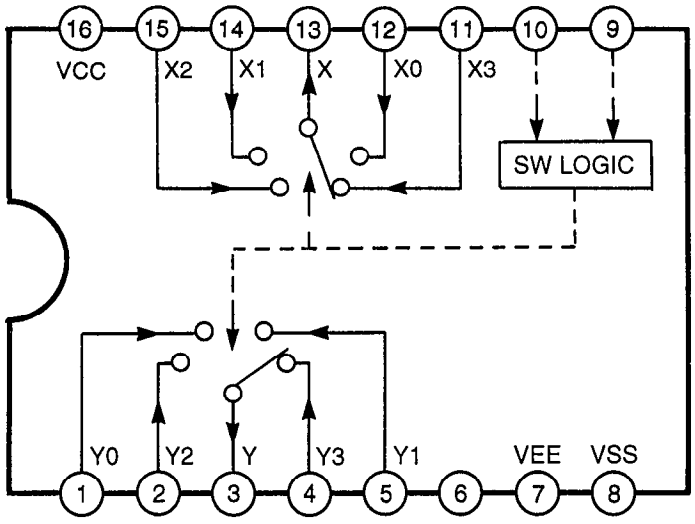
C3954 6V22
C3955 6V22
C3956 6V22
C3957 6V22
C3958 6V22
C3959 6V22
C3960 6V22
C3961 0.01/UFN
C3962 6V22/EKA
C3963 0.01/UFN
C3964 0.01/UFN
C3965 6V22/EKA
C3966 6V22/EKA
C3967 0.01/UFN
C3968 0.01/UFN
C3969 6V22/EKA
C3970 6V22/EKA
C3971 6V22/EKA
C3972 6V22/EKA
C3973 6V22/EKA
C3974 6V22/EKA
C3975 6V22/EKA
C3976 6V22/EKA
C3977 6V22/EKA
C3978 6V22/EKA
C3979 6V22/EKA
C3980 6V22/EKA
C3981 6V22/EKA
C3982 6V22/EKA
C3983 6V22/EKA
C3984 6V22/EKA
C3985 6V22/EKA
C3986 6V22/EKA
C3987 6V22/EKA
C3988 6V22/EKA

I/O PACK C.B.A.

REF. NO. / MODE	IC3901																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
PLAY	4.9	4.9	4.9	4.9	4.9	11.1	0	0	0	0	4.9	4.9	5.7	4.9	4.9	12.2				
REC	4.9	4.9	4.9	4.9	4.9	11.1	0	0	12.2	0	4.9	4.9	5.6	4.9	4.9	12.2				
REF. NO. / MODE	IC3902																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
PLAY	4.9	4.9	4.9	4.9	4.9	10.7	0	0	12.2	0	0	0	0.5	0	0	12.2				
REC	5.0	5.0	4.9	4.9	4.9	0	0	0	12.2	0	0	0	0	0	0	12.2				
REF. NO. / MODE	Q3901			Q3902			Q3903			QR3901					QR3902					
	E	C	B	E	C	B	E	C	B	1	2	3	4	5	1	2	3	4	5	6
PLAY	5.8	0	5.2	5.8	0	5.2	5.8	0	5.2	0	12.2	0	0	3.7	2.6	0	5.0	0	0	0
REC	5.8	0	5.2	5.8	0	5.2	5.8	0	5.2	0	12.2	0	0	3.7	2.6	0	5.0	0	0	0
REF. NO. / MODE	QR3903						QR3904			QR3905			QR3906			QR3907				
	1	2	3	4	5	6	E	C	B	E	C	B	E	C	B	1	2	3	4	5
PLAY	2.6	0	5.0	0	0	0	0	0	2.6	0	0	2.6	0	11.1	0	11.6	0	5.0	0	0
REC	2.6	0	5.0	0	0	0	0	0	2.6	0	0	2.6	0	0	4.9	11.6	0	5.0	0	0

■ IC3901,3902 (MC14052BF-R)

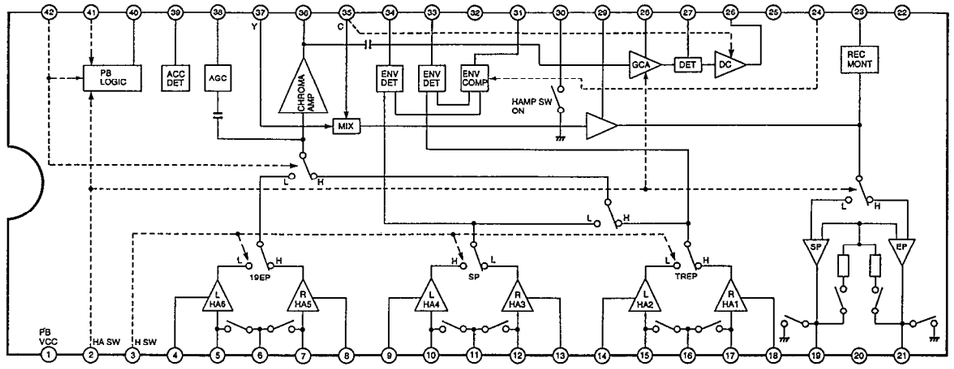


SW LOGIC		⑬ ③ OUTPUT	
A	B	X	Y
L	L	X0	Y0
H	L	X1	Y1
L	H	X2	Y2
H	H	X3	Y3

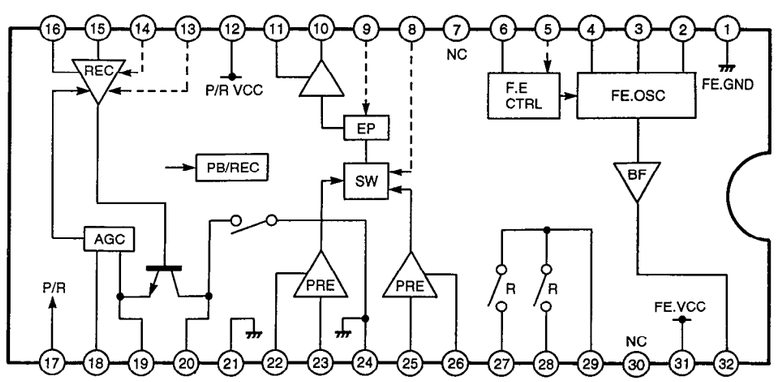
HEAD AMP C.B.A.

REF. NO. / MODE	IC501																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	5.1	0.5	2.7	2.0	0	0	0	2.0	1.3	0.5	0	0.5	1.3	2.0	0	0	0	2.0	0	0
REC	0.3	4.1	4.9	0.1	0	0	0	1.0	0.1	0	0	0	0.1	0.1	0	0	0	0.1	6.2	6.0
REF. NO. / MODE	IC501																			
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	0	0	0	0	5.1	3.4	3.0	2.6	0	0	5.0	0	2.4	2.9	2.7	1.9	2.7	2.5	3.3	4.2
REC	6.0	11.9	8.1	4.6	0.3	0.1	0.5	0.1	3.1	0	0	0	0.2	0.2	3.9	0	3.9	0.6	0.4	0.4
REF. NO. / MODE	IC501																			
	41	42																		
PLAY	4.8	5.1																		
REC	4.8	5.1																		
REF. NO. / MODE	IC551																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	0	0	0	0	0	0	0	5.0	0	2.5	2.3	5.0	4.9	0	2.9	0.4	0.2	0	0	0
REC	0	6.0	3.3	6.0	0	1.0	0.8	0	0	3.7	2.3	5.0	0	0	2.8	1.3	4.3	0.5	0.5	4.1
REF. NO.	IC551												Q551			Q552				
MODE	21	22	23	24	25	26	27	28	29	30	31	32	E	C	B	E	C	B		
PLAY	0	0.7	0.6	0	0.6	0.7	0	0	5.1	0	0	0	0	0	0	0	0	0		
REC	0	0	0	0	0	0	4.2	4.2	5.0	0	11.9	0.9	0.2	5.6	0.8	11.7	5.8	11.0		

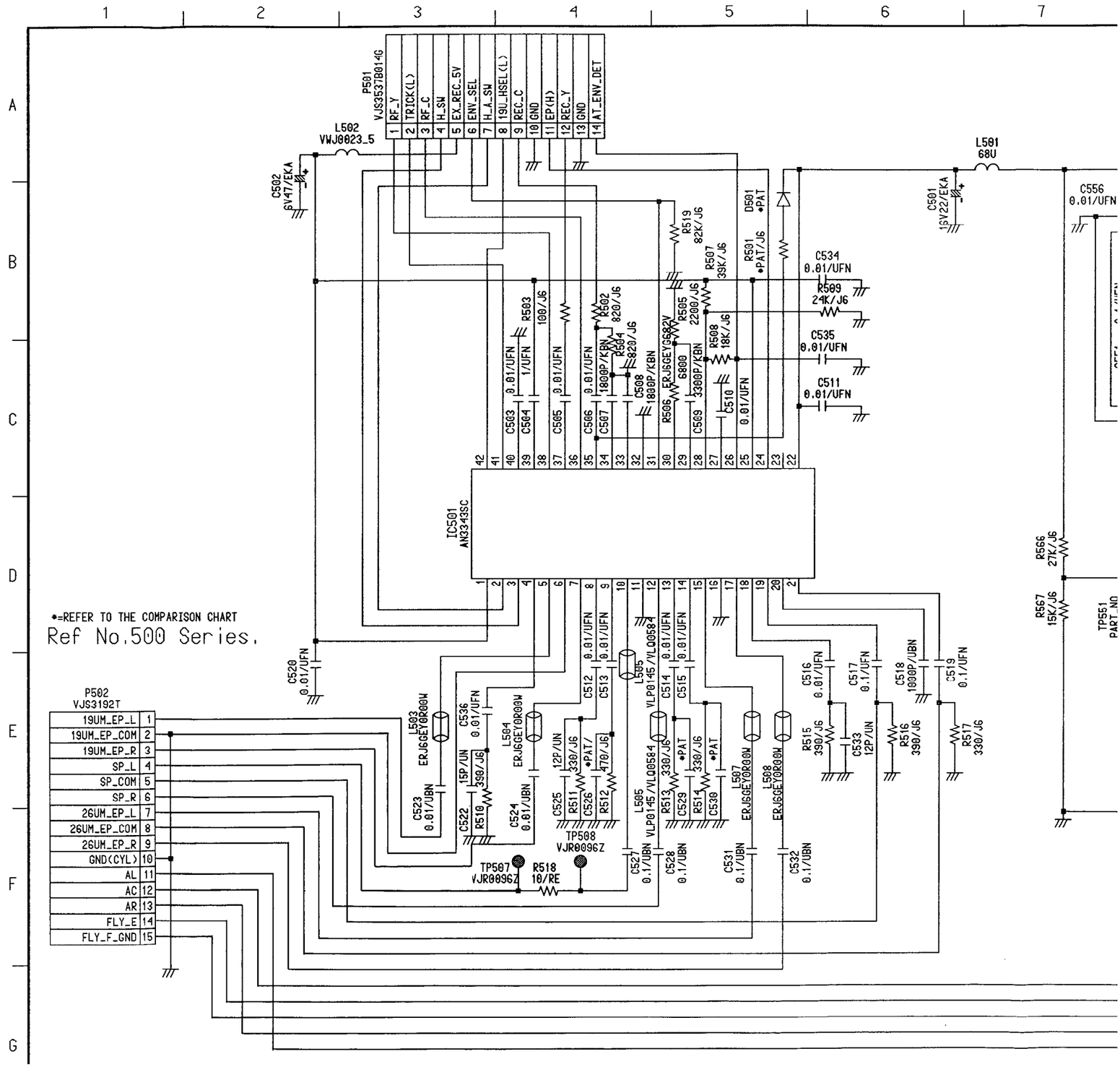
■ IC501 (AN3343SC)



■ IC551 (BA7745FS)

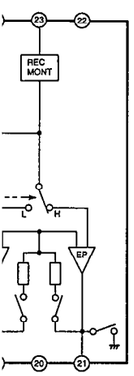


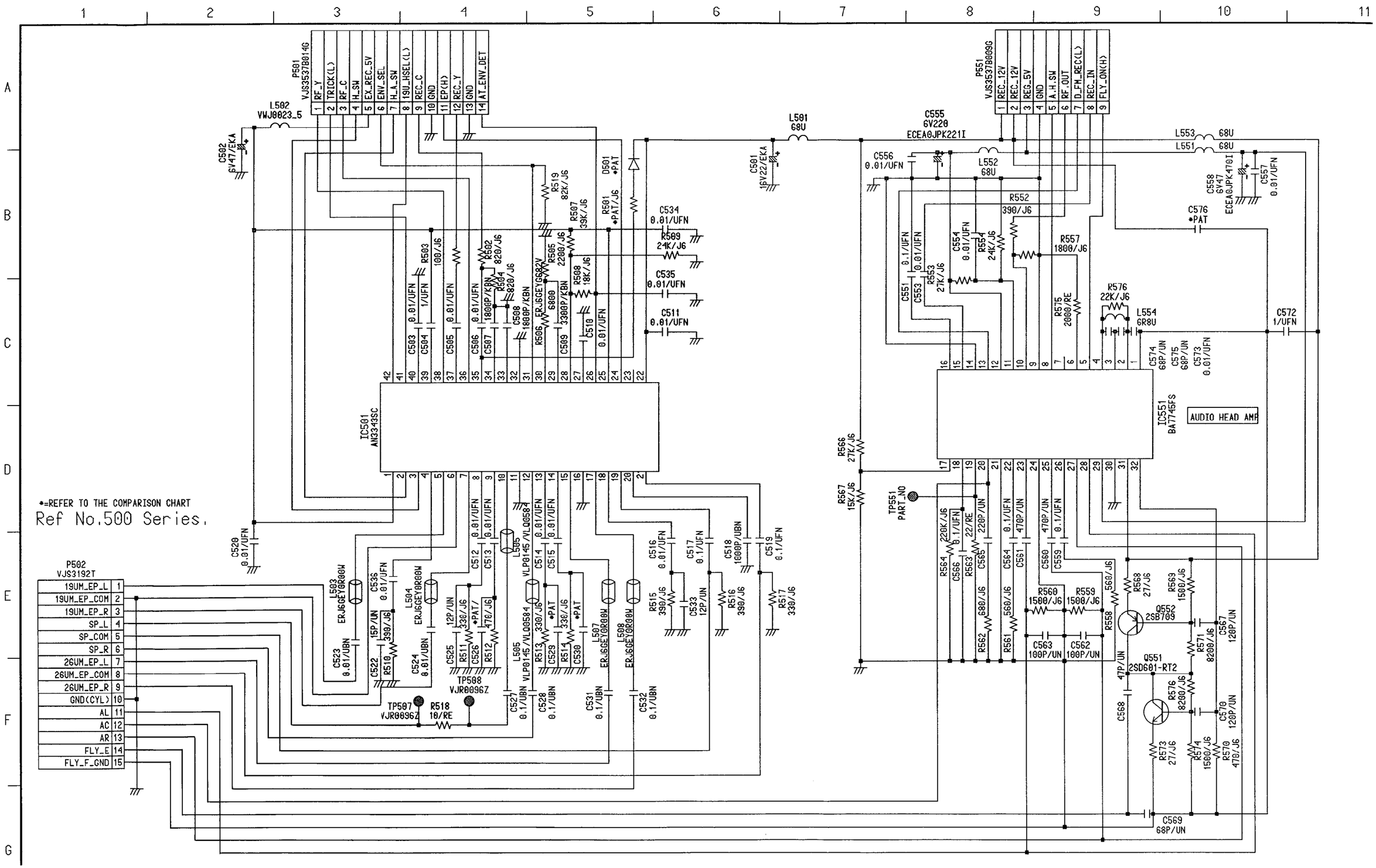
5-22. HEAD AMP SCHEMATIC DIAGRAM



5-22. HEAD AMP SCHEMATIC DIAGRAM

18	19	20
2.0	0	0
0.1	6.2	6.0
38	39	40
2.5	3.3	4.2
0.6	0.4	0.4
18	19	20
0	0	0
0.5	0.5	4.1
B		
0		
11.0		

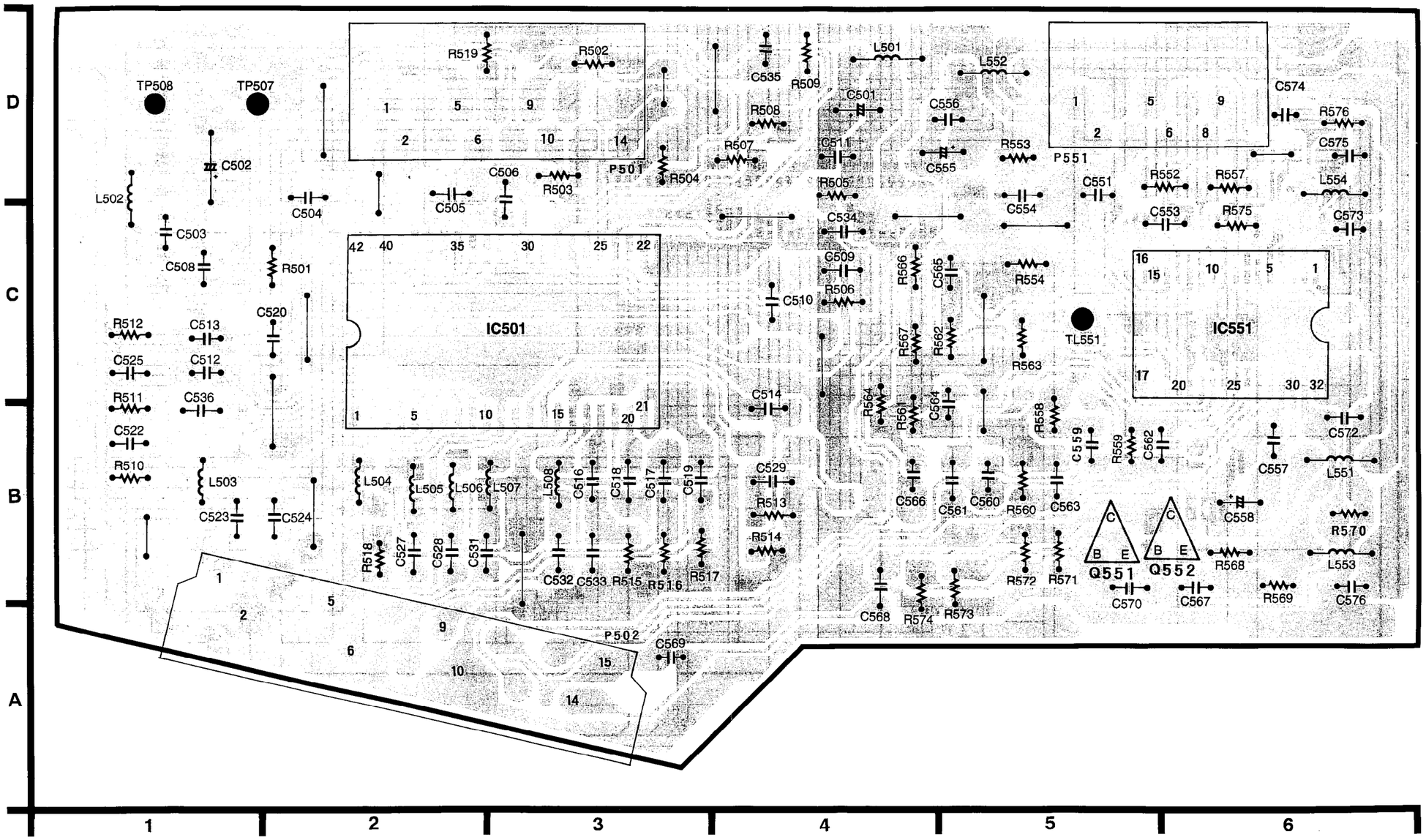




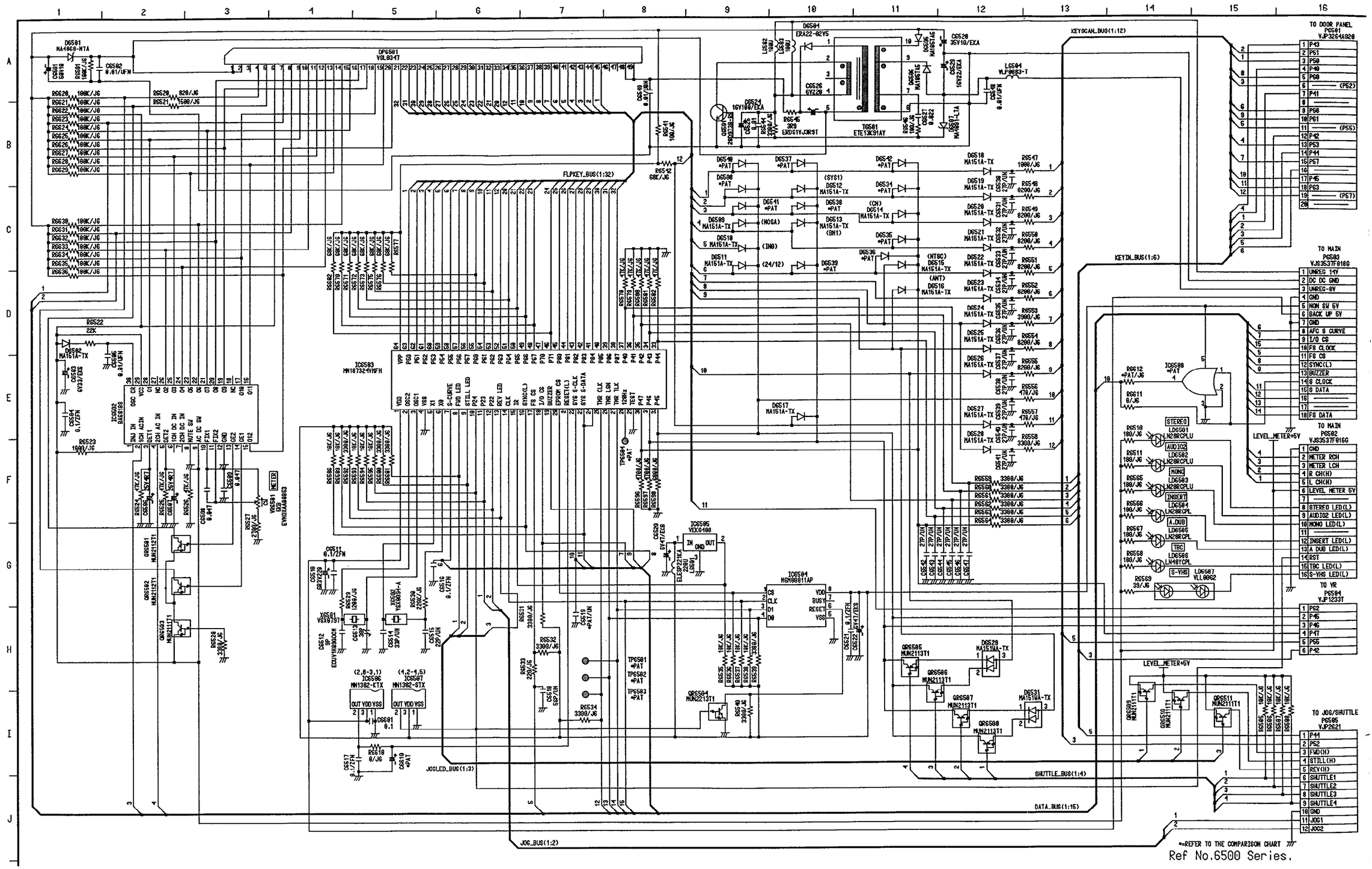
5-23. HEAD AMP C.B.A.

HEAD AMP C.B.A.					
Transistor		**Test Point**		**Connector**	
Q551	B-5	TP507	D-2	P501	D-3
Q552	B-6	TP508	D-1	P502	A-2
Integrated Circuit		**Test Land**		P551	D-6
IC501	C-3	TL551	C-5		
IC551	C-6				

ADDRESS INFORMATION
(F) ..... FOIL SIDE
(C) ..... COMPONENT SIDE



5-24. TIMER SCHEMATIC DIAGRAM



TIMER C.B.A.

REF. NO. / MODE	IC6502																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0.7	1.7	0	1.7	0	0	0	0	5.0	2.2	1.3	0	4.3	4.2	–26.5	–26.5	–26.5	1.8	–26.5	–26.5
REF. NO. / MODE	IC6502																			
	21	22	23	24	25	26	27	28	29	30										
STOP	–26.5	–26.5	–26.5	–26.5	–26.5	–26.5	2.0	–26.5	5.0	3.1										
REF. NO. / MODE	IC6503																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	5.1	1.9	1.9	0	2.1	2.5	4.2	5.1	5.1	5.1	5.1	5.1	5.1	4.8	5.1	0	0.3	5.0	4.9	5.0
REF. NO. / MODE	IC6503																			
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	5.1	4.2	4.6	4.6	4.9	5.1	4.1	2.6	0	2.7	2.4	2.3	0	0	0	0	0	–23.5	–23.5	–23.5
REF. NO. / MODE	IC6503																			
	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
STOP	–23.5	–23.5	–23.5	–23.5	–23.5	–23.7	1.2	–23.1	–14.0	–13.5	–14.0	–20.2	–14.6	–14.6	–14.4	–22.8	–17.6	–14.1	–22.9	–17.7
REF. NO. / MODE	IC6503			IC6504									IC6505			IC6506				
	61	62	63	64	1	2	3	4	5	6	7	8	1	2	3	O	G	V		
STOP	–16.0	–14.8	–14.7	–26.5	5.0	4.8	4.1	5.1	0	0	5.1	5.1	5.1	5.1	0	5.1	0	5.1		
REF. NO. / MODE	IC6507			Q6501																
	O	G	V	E	C	B														
STOP	5.1	0	5.1	0	14.2	–0.9														
REF. NO. / MODE	QR6501			QR6502			QR6503			QR6504			QR6505			QR6506				
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
STOP	5.0	–24.0	4.4	4.9	–24.0	4.2	5.0	4.9	1.2	0	0	5.1	5.0	2.4	5.0	5.0	2.3	5.0		
REF. NO. / MODE	QR6507			QR6508			QR6509			QR6510			QR6511							
	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B					
STOP	5.0	2.2	5.0	5.0	2.3	5.0	5.0	2.2	5.1	5.0	2.2	5.1	5.0	2.2	5.1					

TIMER C.B.A.

Transistor	
Q6501	B-1 (F),(C)

Transistor & Resistor	
QR6501	E-2 (F)
QR6502	F-2 (F)
QR6503	E-2 (F)
QR6504	B-3 (F)
QR6505	A-1 (F)
QR6506	A-1 (F)
QR6507	A-2 (F)
QR6508	A-2 (F)
QR6509	A-2 (F)
QR6510	A-3 (F)
QR6511	A-3 (F)

Integrated Circuit	
IC6502	F-1 (F),(C)
IC6503	D-3 (F),(C)
IC6504	B-3 (F),(C)
IC6505	F-2 (F),(C)
IC6506	E-3 (F)
IC6507	B-3 (F)
IC6508	E-3 (F)

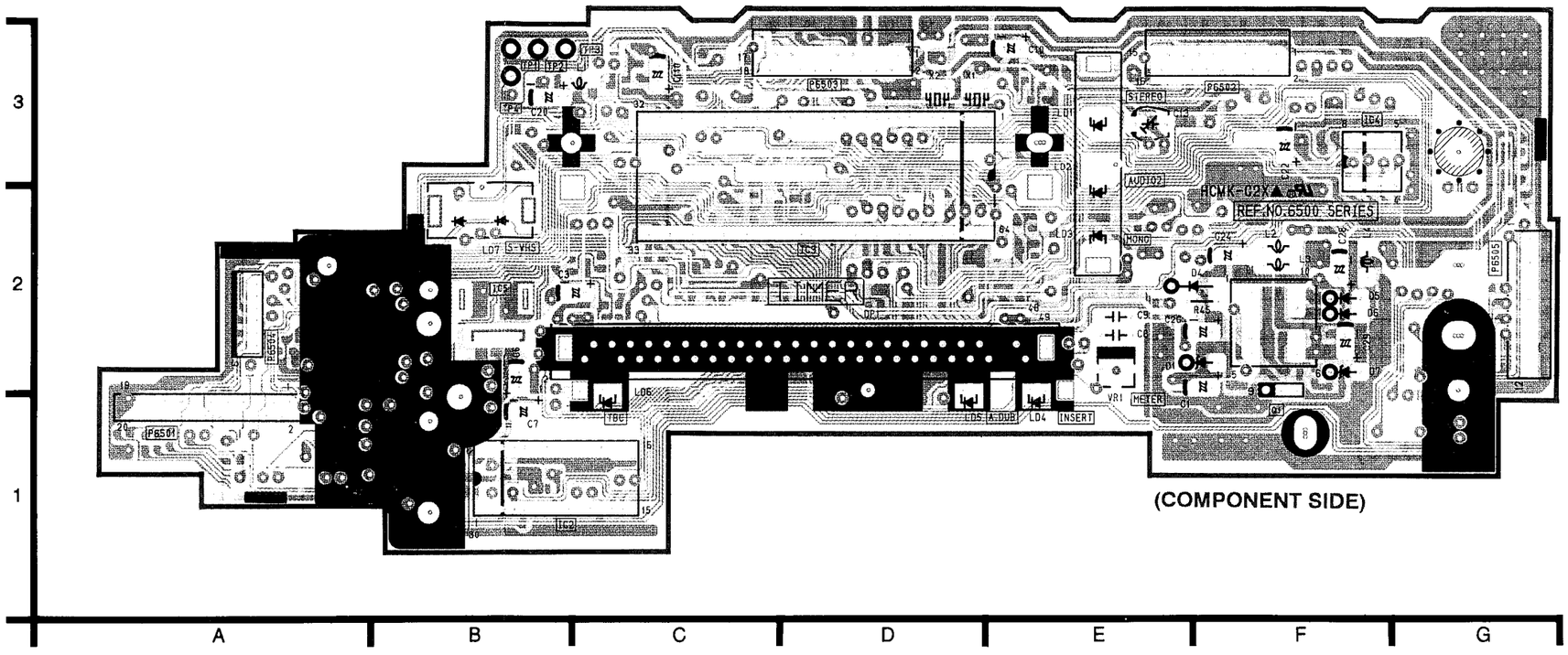
Test Point	
TP6501	F-3 (F),(C)
TP6502	F-3 (F),(C)
TP6503	F-3 (F),(C)
TP6504	F-3 (F),(C)

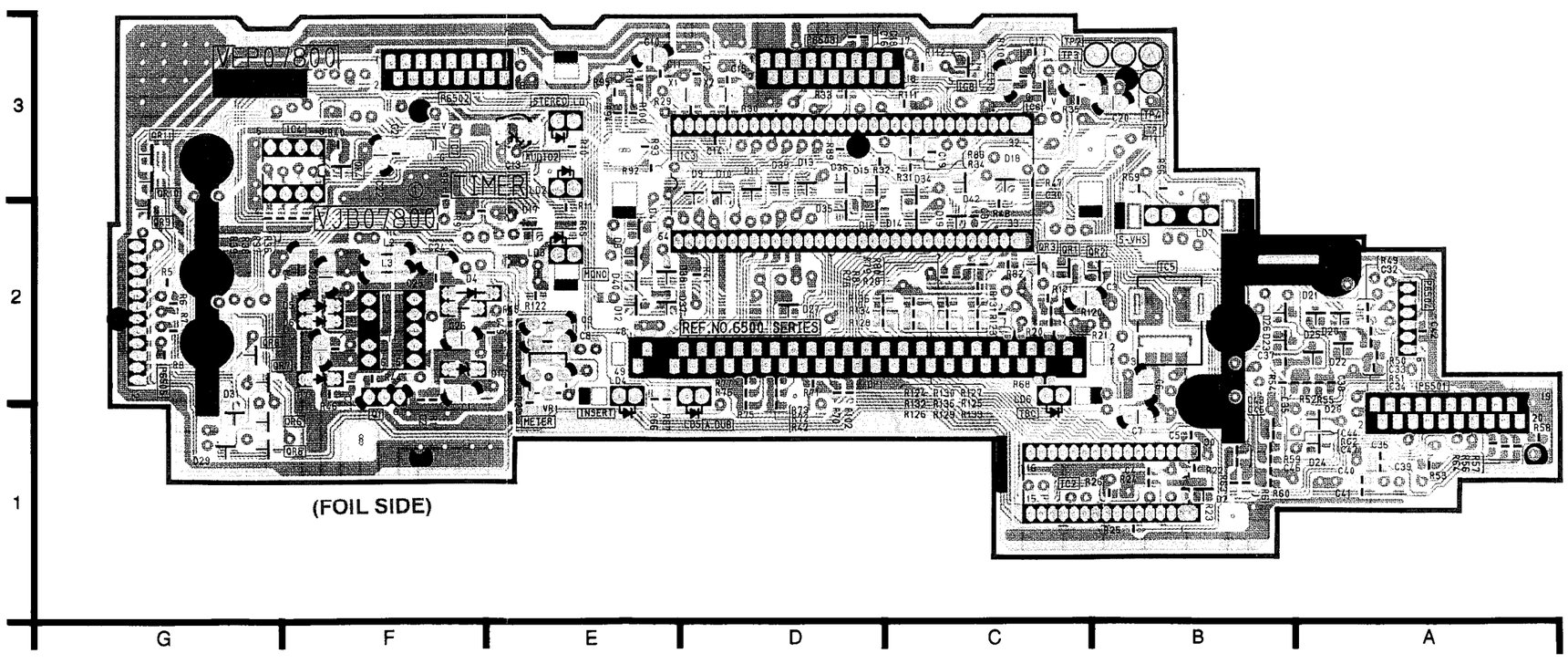
Adjustment	
VR6501	C-2 (F),(C)

Connector	
P6501	G-1 (F),(C)
P6502	B-3 (F),(C)
P6503	D-3 (F),(C)
P6504	G-2 (F),(C)
P6505	A-2 (F),(C)

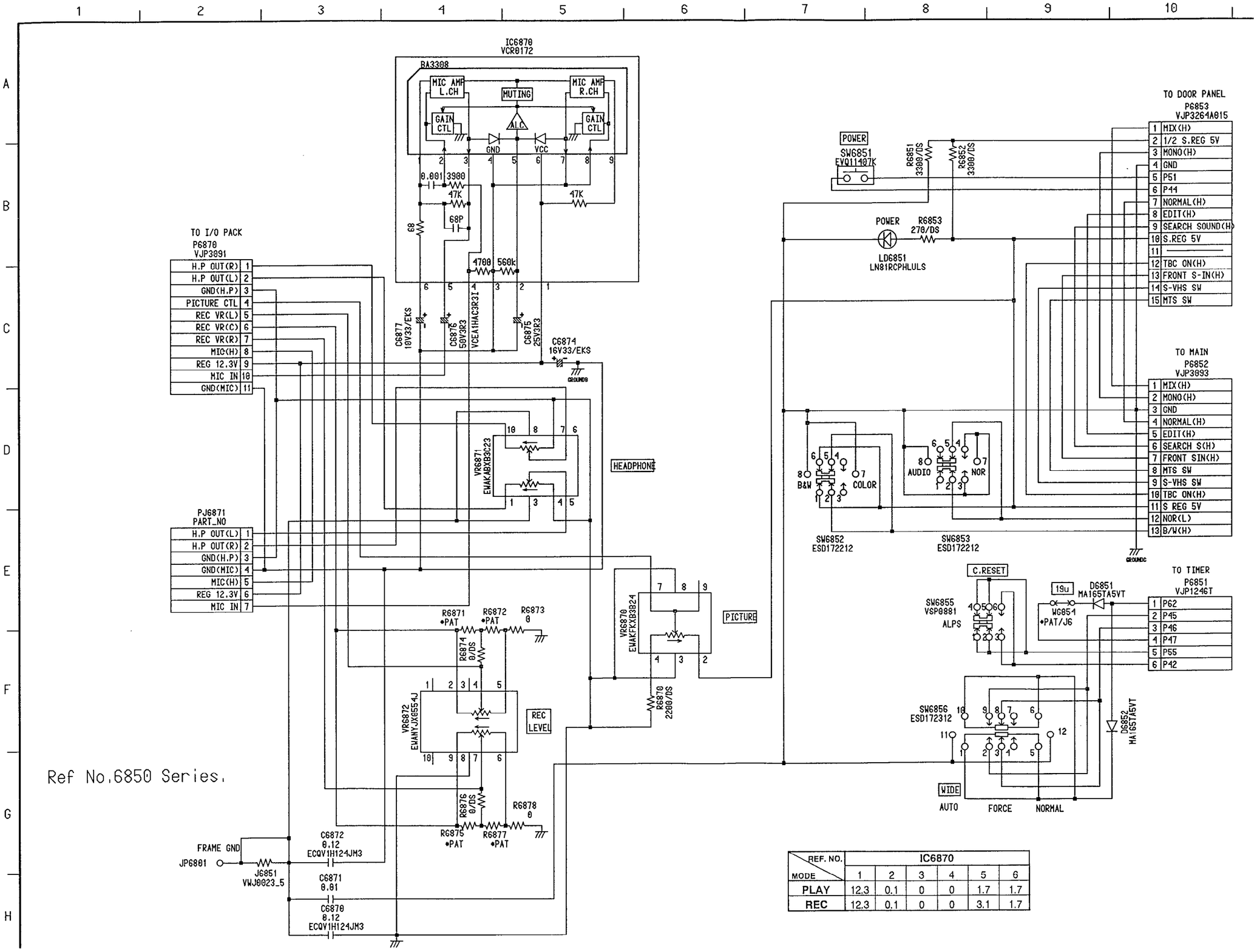
ADDRESS INFORMATION
(F) ..... FOIL SIDE
(C) ..... COMPONENT SIDE

5-25. TIMER C.B.A.





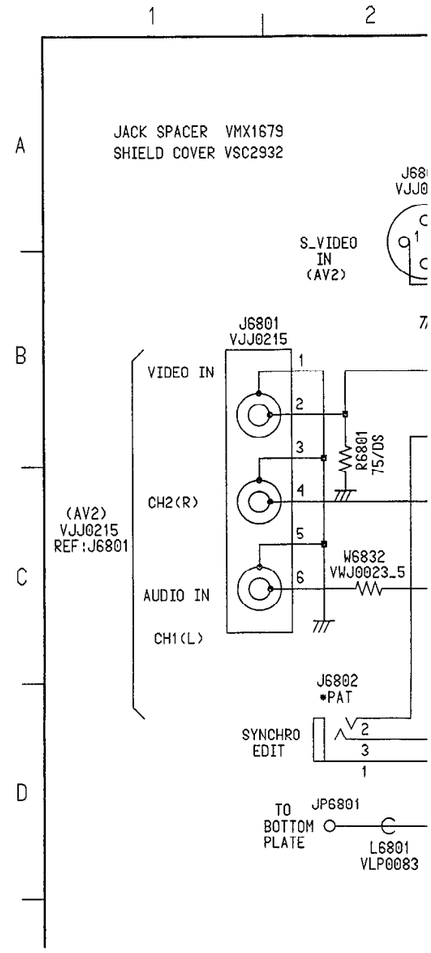
5-26. VR SCHEMATIC DIAGRAM



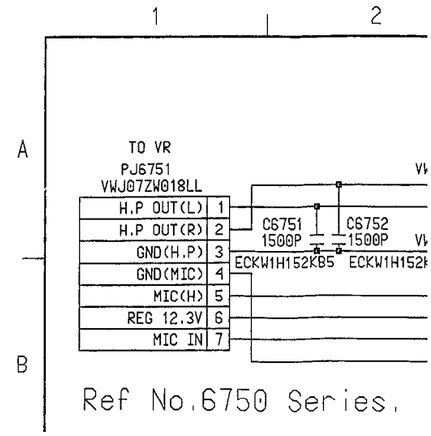
Ref No.6850 Series.

REF. NO. / MODE	IC6870					
	1	2	3	4	5	6
PLAY	12.3	0.1	0	0	1.7	1.7
REC	12.3	0.1	0	0	3.1	1.7

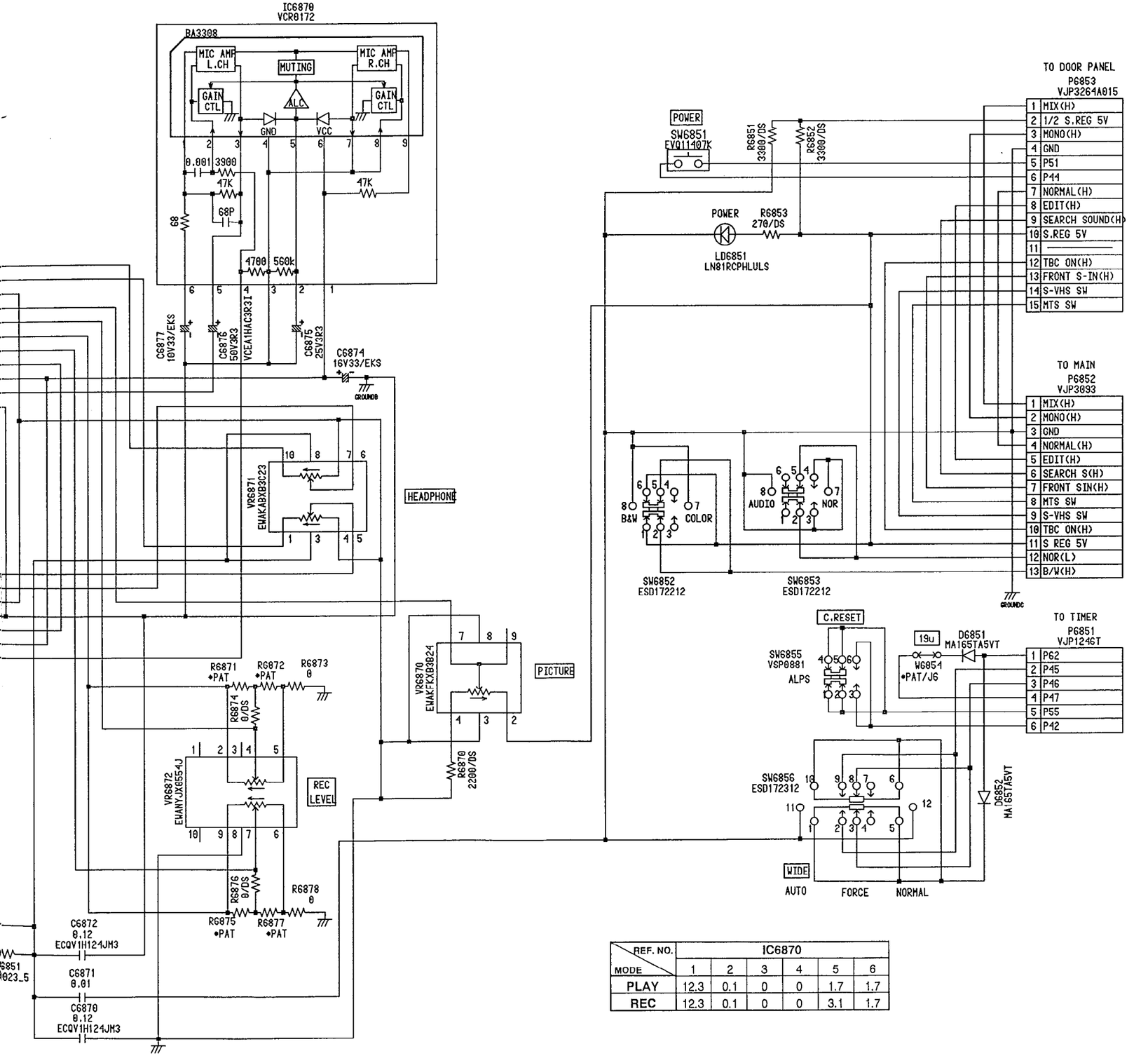
5-27. FRONT JACK SCHEMAT



5-28. HEAD PHONE & MIC JAC

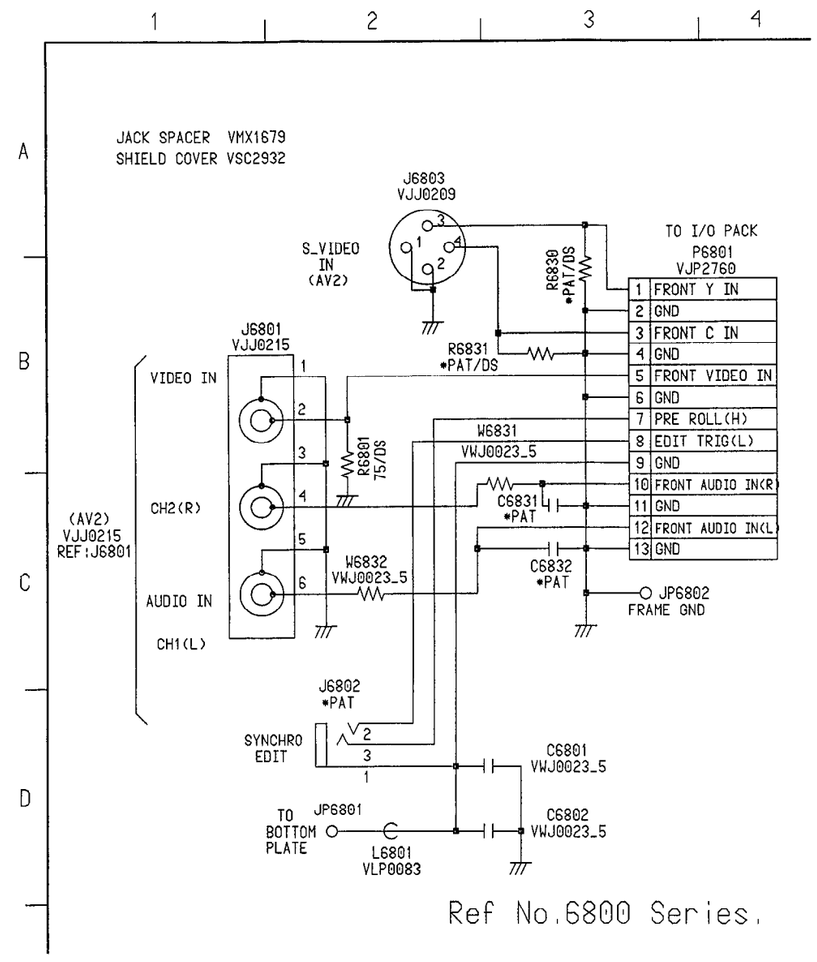


Ref No.6750 Series.

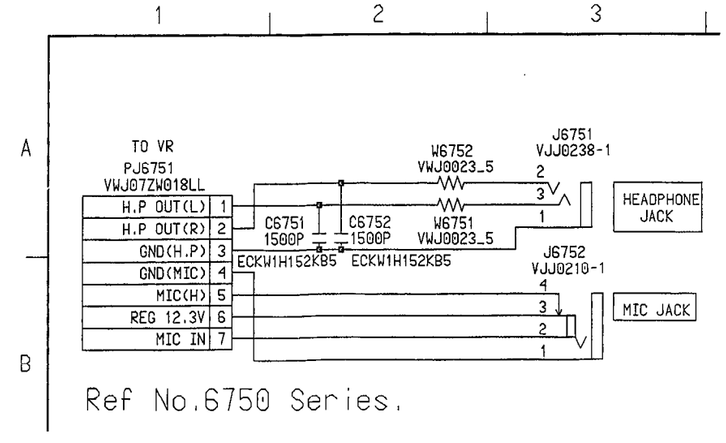


REF. NO. / MODE	IC6870					
	1	2	3	4	5	6
PLAY	12.3	0.1	0	0	1.7	1.7
REC	12.3	0.1	0	0	3.1	1.7

5-27. FRONT JACK SCHEMATIC DIAGRAM



5-28. HEAD PHONE & MIC JACK SCHEMATIC DIAGRAM

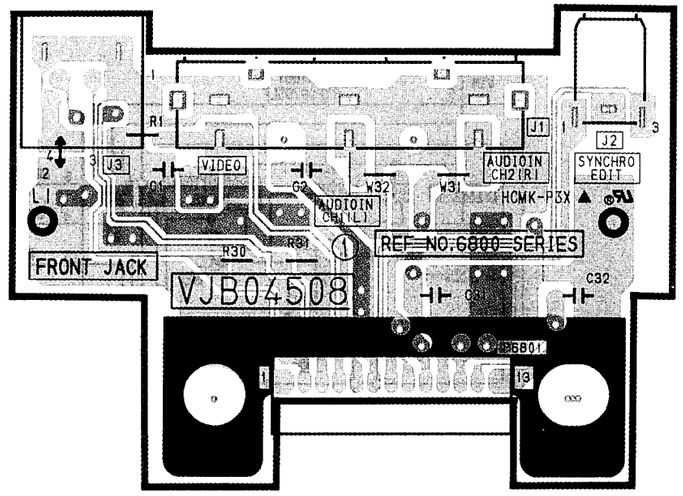


5-29. VR, FRONT JACK, HEAD PHONE & MIC JACK C.B.A.

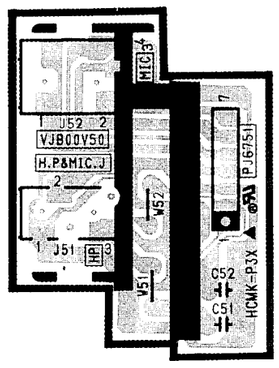
VR C.B.A.	
Integrated Circuit	
IC6870	E-1
Adjustment	
VR6870 VR6871 VR6872	E-2 F-2 B-2
Connector	
P6851 P6852 P6853 P6870 P6871	C-1 B-1 A-2 D-1 F-2

ADDRESS INFORMATION

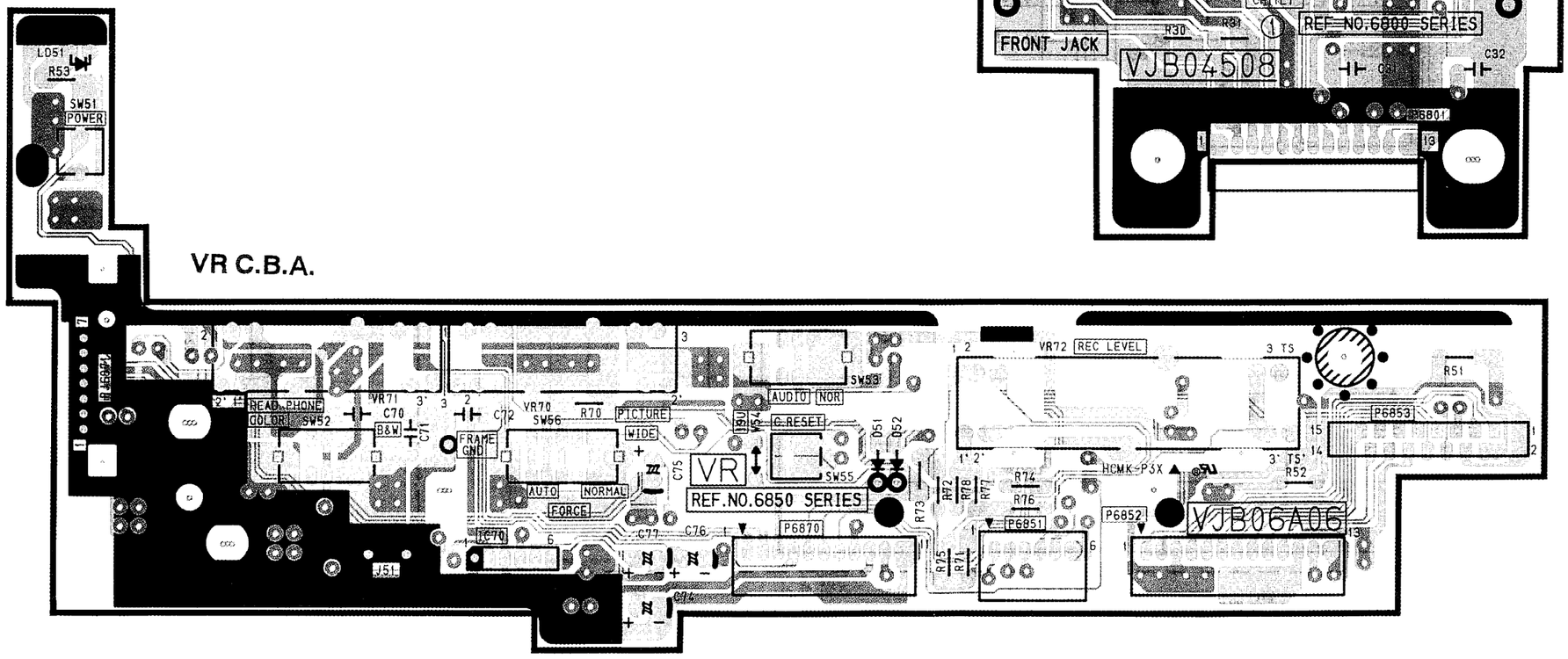
FRONT JACK C.B.A.



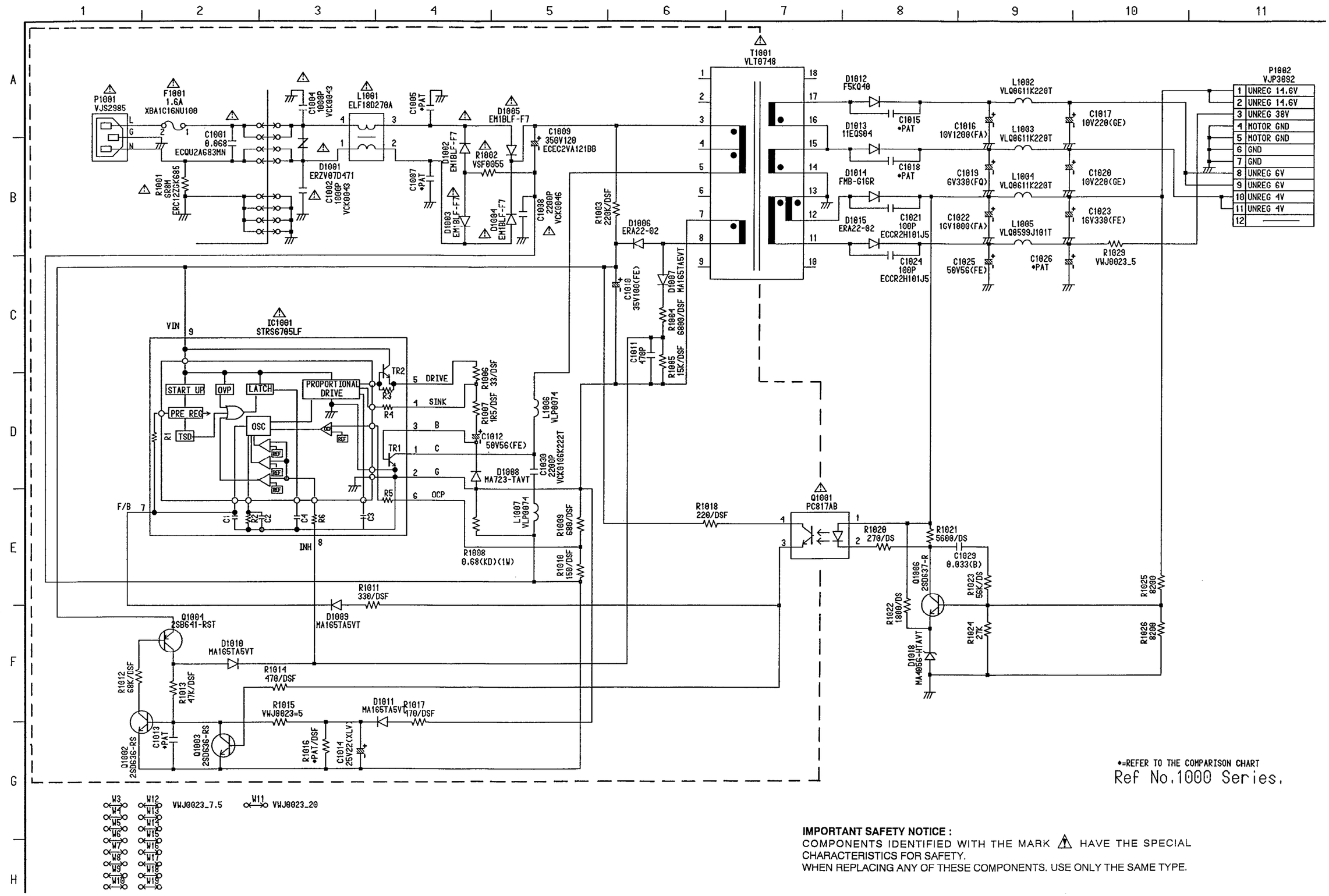
H. P & MIC JACK C.B.A.



VR C.B.A.



5-30. POWER SCHEMATIC DIAGRAM



*=REFER TO THE COMPARISON CHART
Ref No.1000 Series.

IMPORTANT SAFETY NOTICE :
COMPONENTS IDENTIFIED WITH THE MARK ⚠ HAVE THE SPECIAL CHARACTERISTICS FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS. USE ONLY THE SAME TYPE.

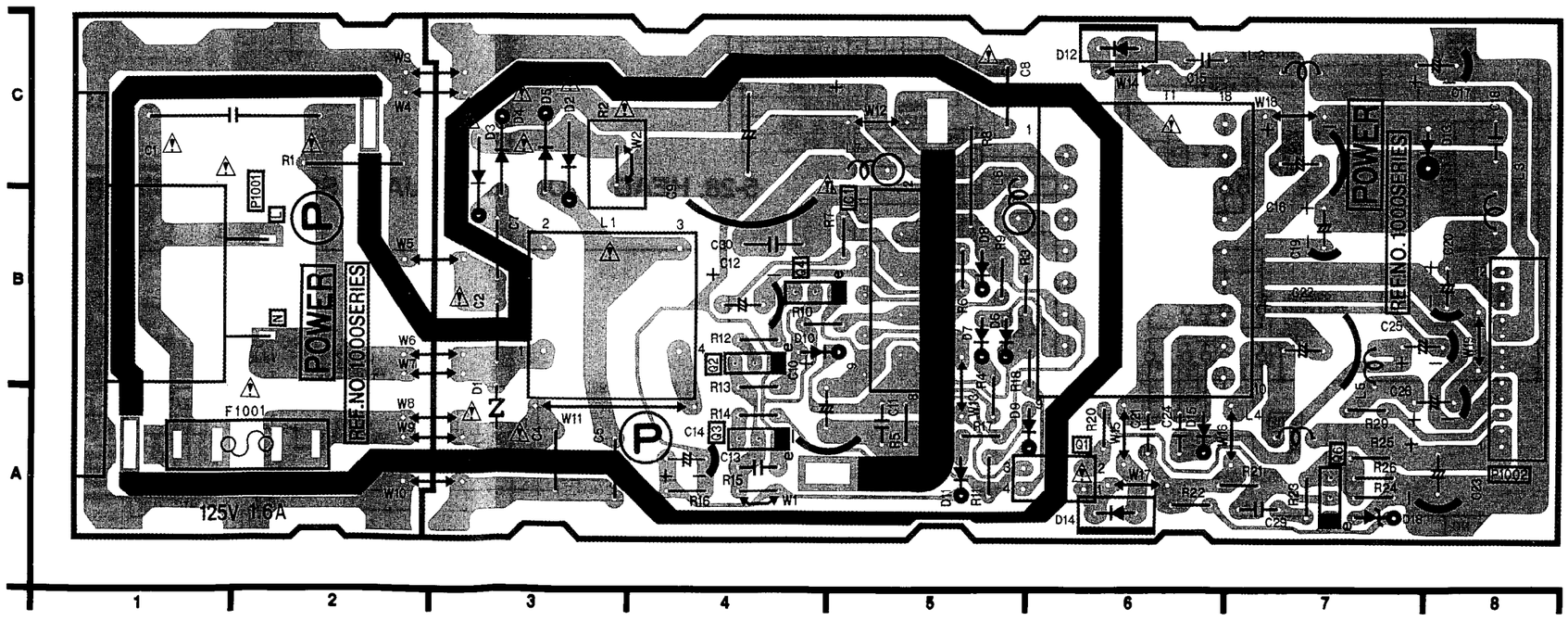
POWER C.B.A.

REF. NO. / MODE	IC1001								
	1	2	3	4	5	6	7	8	9
STOP	27.1	0	0	0.3	1.0	0	0.2	1.2	7.8
REF. NO. / MODE	Q1001				Q1006				
	1	2	3	4	E	C	B		
STOP	14.8	13.7	1.0	7.4	5.7	13.3	6.3		

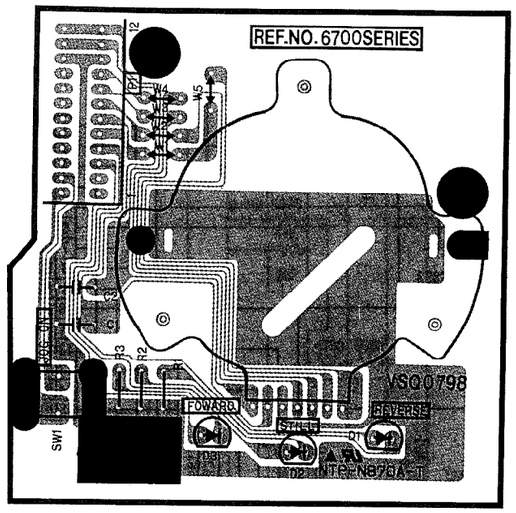
5-31. POWER C.B.A.

POWER C.B.A.	
Transistor	
Q1001	A-6
Q1002	B-4
Q1003	A-4
Q1004	B-4
Q1006	A-7
Integrated Circuit	
IC1001	B-5
Connector	
P1001	B-2
P1002	A-8

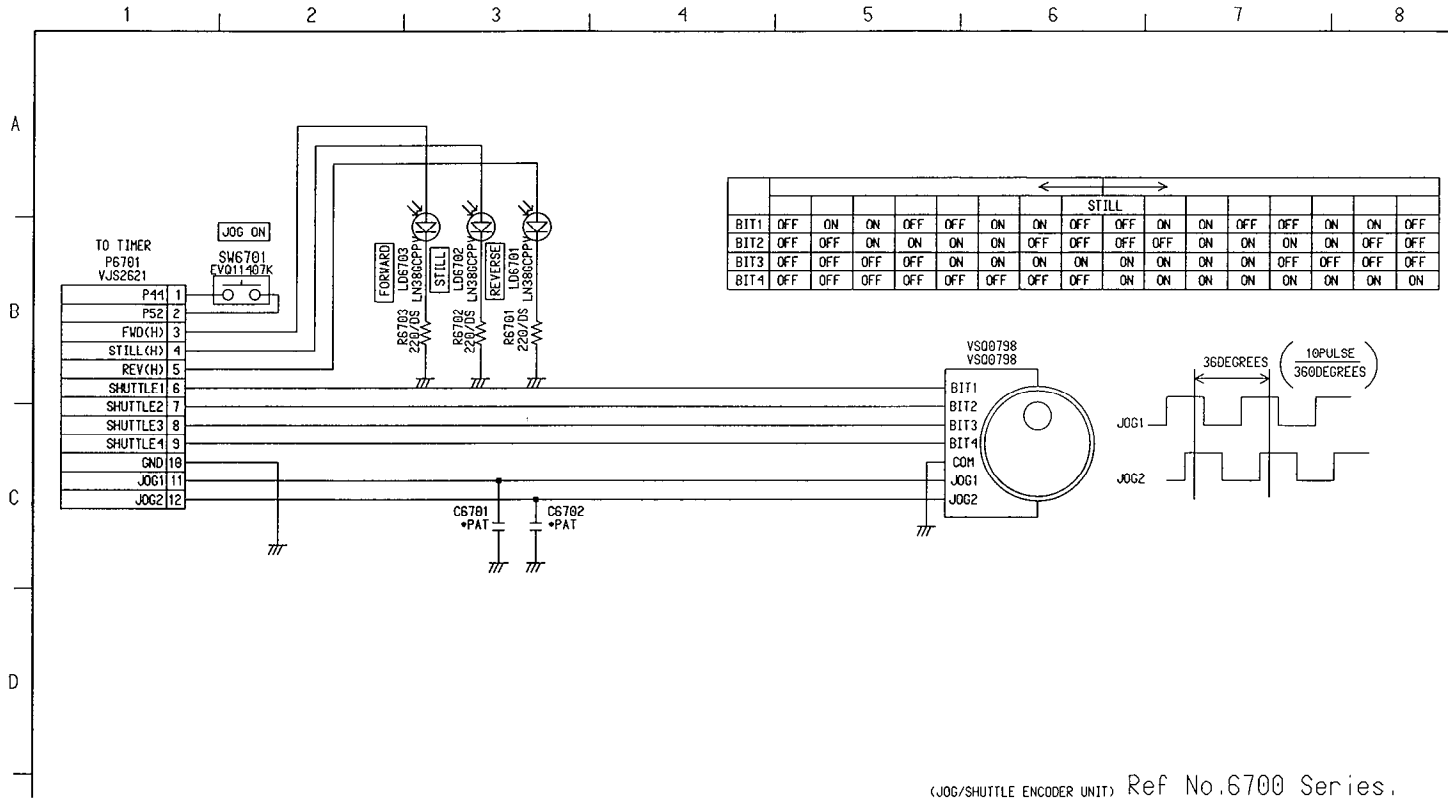
ADDRESS INFORMATION



5-32. JOG/SHUTTLE C.B.A.



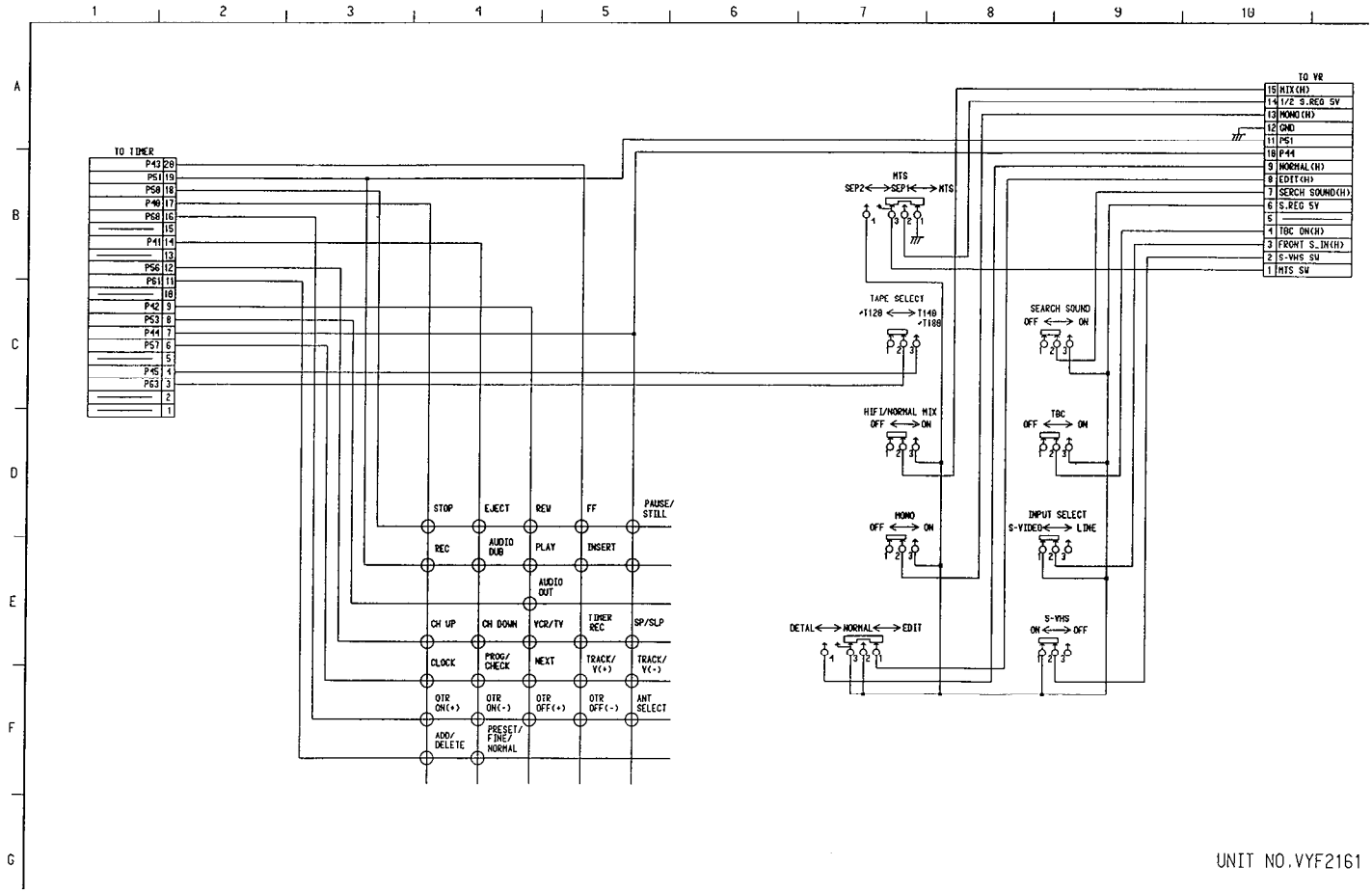
5-33. JOG/SHUTTLE SCHEMATIC DIAGRAM



	STILL															
BIT1	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF	OFF	ON	ON	OFF
BIT2	OFF	OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	OFF	OFF
BIT3	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON	OFF	OFF	OFF	OFF
BIT4	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON	ON

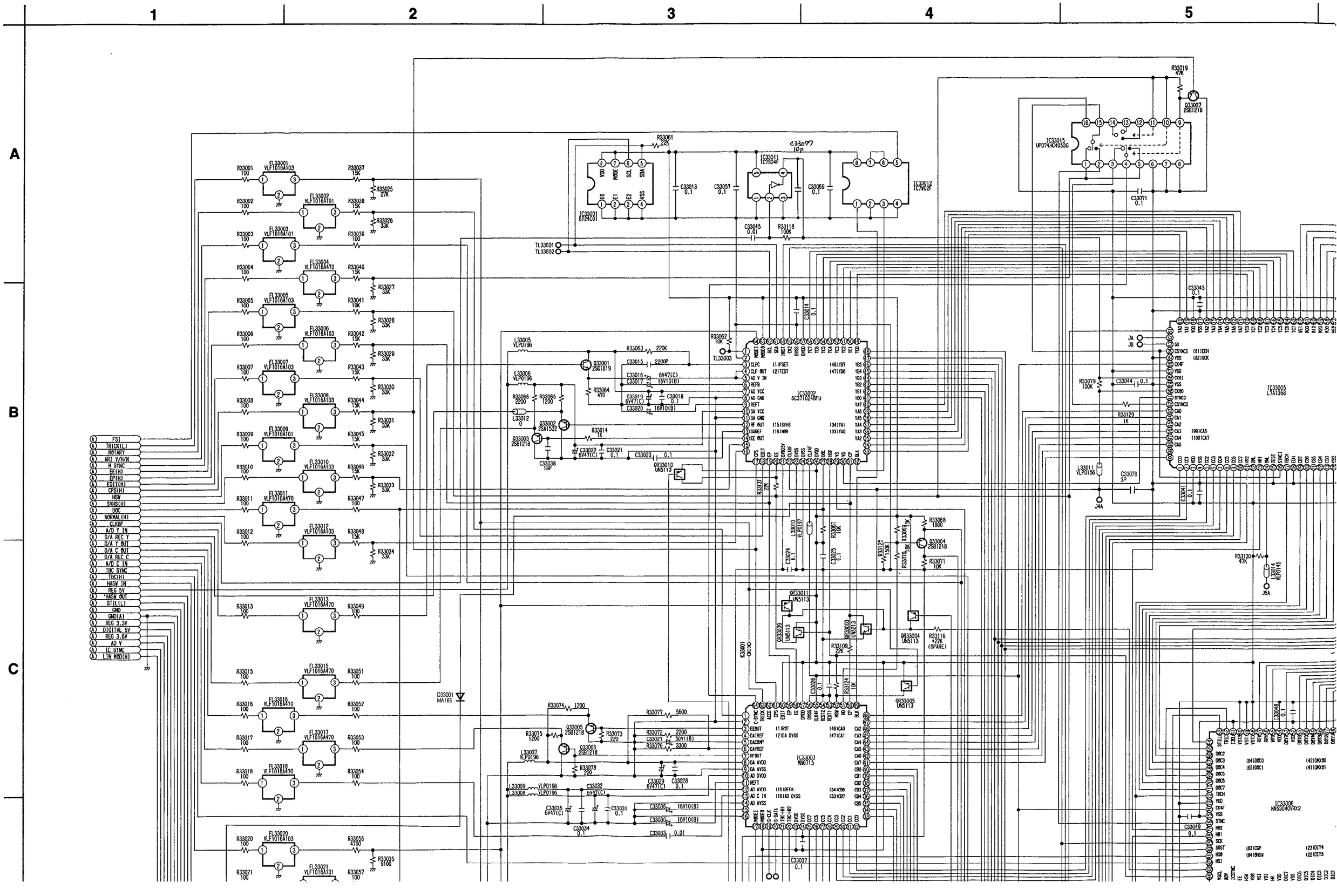
(JOG/SHUTTLE ENCODER UNIT) Ref No.6700 Series.

5-34. DOOR PANEL SCHEMATIC DIAGRAM



UNIT NO.VYF2161

5-35. DIGITAL Y/C SCHEMATIC DIAGRAM



3 4 5 6 7

IC33001 6T24C01
R33061 22K
C33013 0.1
C33057 0.1
C33011 IC7804F
C33077 10P
C33069 0.1
IC33012 IC7W02F
C33045 0.01
R33118 100K
TL33001
TL33002
R33019 47K
Q33007 2SB1218
IC33015 UPD74HC4053G
C33071 0.1
C33043 0.1
L33013 VLP0197
PS33001 VJS2961C30
L33005 VLP0196
R33063 220K
Q33001 2SD1819
C33015 2200P
C33016 6V47(C)
C33017 16V10(B)
R33064 470
C33019 6V47(C)
C33018 0.1
C33020 16V10(B)
L33006 VLP0196
R33065 1200
R33066 2200
L33012 0
Q33002 2SA1532
Q33003 2SB1218
R33014 1K
C33022 6V47(C)
C33021 0.1
C33023 0.1
C33038 18P
Q33010 UN5113
R33062 10K
TL33003
IC33002 SC3710248FU
C33014 0.1
R33137 22K
L33010 VLP0197
R33067 10K
C33024 0.1
C33025 0.1
R33125 150K
R33070 18K
R33069 15K
R33068 1800
Q33004 2SB1218
R33071 10K
Q33011 UN5113
Q33009 UN5113
Q33005 UN5113
R33116 *22K (SPARE)
R33109 22K
C33026 0.1
R33124 10K
Q33004 UN5113
Q33005 UN5113
V33001
JA
JB
R33079 100K
C33044 0.1
R33129 1K
IC33005 L7AT368
L33011 VLP0156
C33078 3P
J4A
C33041 0.1
C33060 0.1
R33130 47K
L33014 VLP0146
J5A
R33074 1200
R33075 1200
Q33005 2SB1218
R33073 220
Q33006 2SB1218
L33007 VLP0196
R33078 220
R33077 5600
R33072 2200
C33027 50V1(B)
R33076 3300
C33029 6V47(C)
C33028 0.1
L33009 VLP0196
L33008 VLP0196
C33032 6V47(C)
C33035 6V47(C)
C33031 0.1
C33036 16V10(B)
C33030 16V10(B)
C33034 0.1
C33033 0.01
IC33003 MN6715
C33037 0.1
C33045 0.1
C33046 0.1
IC33006 MN53040VRX2
C33049 0.1
C33047 0.1
C33054 0.1
C33056 0.1
IC33010 MN4792FBP

B

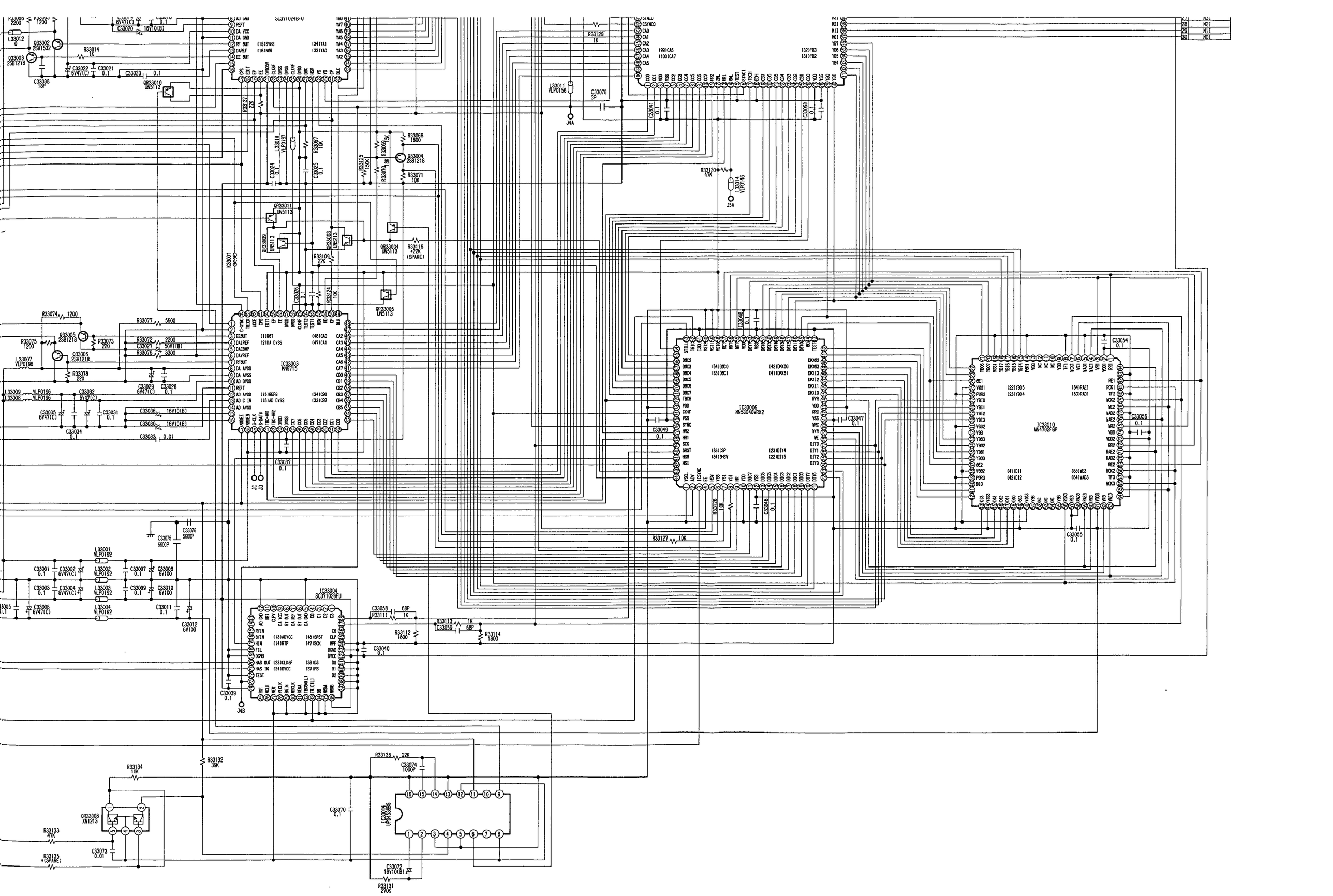
C

D

E

FSI
TRICK(L)
ROTARY
ART V/H/N
H SYNC
EE(H)
EP(H)
EDIT(H)
CPS(H)
HSW
SYNS(H)
D0C
NORMAL(H)
CLK8F
A/D Y IN
D/A REC Y
D/A Y OUT
D/A C OUT
D/A REC C
A/D C IN
TBC SYNC
TBC(H)
HASW IN
REG 5V
HASW OUT
STI(L)
GND
GND(A)
REG 3.3V
DIGITAL 5V
REG 3.6V
AD Y
IC SYNC
LIN MOD(H)

R33008 100
R33009 100
R33010 100
R33011 100
R33012 100
R33013 100
R33015 100
R33016 100
R33017 100
R33018 100
R33020 100
R33021 100
R33022 100
R33023 100
R33044 15K
R33045 15K
R33046 15K
R33047 100
R33048 15K
R33049 100
R33051 100
R33052 100
R33053 100
R33054 100
R33056 4700
R33057 100
R33058 100
R33059 15K
R33060 100
R33050 15K
R33031 33K
R33032 33K
R33033 33K
R33034 33K
R33035 9100
R33036 33K
R33055 33K
FL33009 VLF1016A101
FL33010 VLF1016A103
FL33011 VLF1016A470
FL33012 VLF1016A103
FL33013 VLF1016A470
FL33015 VLF1016A470
FL33016 VLF1016A470
FL33017 VLF1016A470
FL33018 VLF1016A470
FL33020 VLF1016A103
FL33021 VLF1016A101
FL33022 VLF1016A101
FL33023 VLF1016A103
FL33024 VLF1016A101
D33001 MA165
R33024 18K
R33096 27K
JJ
R33074 1200
R33075 1200
Q33005 2SB1218
Q33006 2SB1218
R33073 220
R33078 220
L33007 VLP0196
L33009 VLP0196
L33008 VLP0196
C33032 6V47(C)
C33034 0.1
C33035 6V47(C)
C33031 0.1
R33077 5600
R33072 2200
C33027 50V1(B)
R33076 3300
C33029 6V47(C)
C33028 0.1
C33036 16V10(B)
C33030 16V10(B)
C33033 0.01
C33001 0.1
C33002 6V47(C)
C33003 0.1
C33004 6V47(C)
C33005 0.1
C33006 6V47(C)
L33001 VLP0192
L33002 VLP0192
L33003 VLP0192
L33004 VLP0192
C33007 0.1
C33008 6V100
C33009 0.1
C33010 6V100
C33011 0.1
C33012 6V100
C33075 5600P
C33076 5600P
R33134 10K
R33133 47K
R33135 *(SPARE)
C33073 0.01
QR33008 XN1213
R33132 39K
R33136 22K
C33074 1000P
C33070 0.1
C33072 16V10(B)
R33131 270K
IC33004 SC371026FU
C33058 68P
R33111 1K
R33112 1800
C33040 0.1
R33113 1K
C33059 68P
R33114 1800
C33039 0.1
J4B
IC33003 MN6715
IC33006 MN53040VRX2
IC33007 uPD53806
R33127 10K
R33126 10K
C33046 0.1
C33048 0.1
C33049 0.1
C33041 0.1
L33011 VLP0156
C33078 3P
J4A
R33129 1K
R33130 47K
L33014 VLP0146
J5A
R33068 1800
R33069 15K
R33070 18K
R33071 10K
R33124 150K
Q33004 2SB1218
C33024 0.1
C33025 0.1
L33012 VLP0197
R33067 10K
QR33011 UN5113
QR33009 UN5113
QR33003 UNC213
QR33004 UN5113
QR33005 UN5113
R33109 22K
R33116 *22K (SPARE)
C33026 0.1
R33124 10K
R33137 22K
Q33002 2SA1532
Q33003 2SB1218
R33014 1K
C33022 6V47(C)
C33021 0.1
C33023 0.1
C33038 18P
QR33010 UN5113
L33012 2200
L33013 1200
L33012 0
C33020 6V47(C)
16V10(B)
0.1
IC33001 SC371026FU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MN6715
IC33004
SC371026FU
IC33006
MN58040VRK2
IC33010
MN47926FBP
IC33014
LA4425M
K33001
J4A
J4B
J5A
J5B
J5C
J5D
L33011
VLP0156
L33012
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L33013
VLP0146
L33014
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VLP0192
L33003
VLP0192
L33004
VLP0192
L33010
VLP0197
Q33002
2SA1532
Q33003
2SB1218
Q33004
2SB1218
Q33005
2SB1218
Q33006
2SB1218
QR33003
UN5113
QR33004
UN5113
QR33005
UN5113
QR33009
UN5113
QR33011
UN5113
QR33010
UN5113
QR33008
XN1213
R33014
1K
R33067
10K
R33068
1800
R33071
10K
R33116
*22K
(SPARE)
R33129
150K
R33130
47K
R33127
10K
R33131
270K
R33132
39K
R33133
47K
R33134
10K
R33135
*(SPARE)
R33136
22K
R33137
22K
R33072
2200
R33073
220
R33074
1200
R33075
1200
R33076
3300
R33077
5600
R33078
220
C33078
3P
C33076
5600P
C33075
5600P
C33074
1000P
C33073
0.01
C33072
16V10(B)
C33070
0.1
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C33068
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18P
C33037
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16V10(B)
C33035
6V47(C)
C33034
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C33033
0.01
C33032
6V47(C)
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C33030
16V10(B)
C33029
6V47(C)
C33028
0.1
C33027
50V1(B)
C33026
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C33025
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C33024
0.1
C33023
0.1
C33022
6V47(C)
C33021
0.1
C33020
16V10(B)
C33019
6V47(C)
C33018
0.1
C33017
0.1
C33016
0.1
C33015
0.1
C33014
0.1
C33013
0.1
C33012
6V100
C33011
0.1
C33010
6V100
C33009
0.1
C33008
6V100
C33007
0.1
C33006
6V47(C)
C33005
0.1
C33004
6V47(C)
C33003
0.1
C33002
6V47(C)
C33001
0.1
R33127
10K
R33126
10K
R33113
1K
R33112
1800
R33114
1800
R33111
1K
R33110
2K
R33109
2K
R33108
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R33107
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R33002
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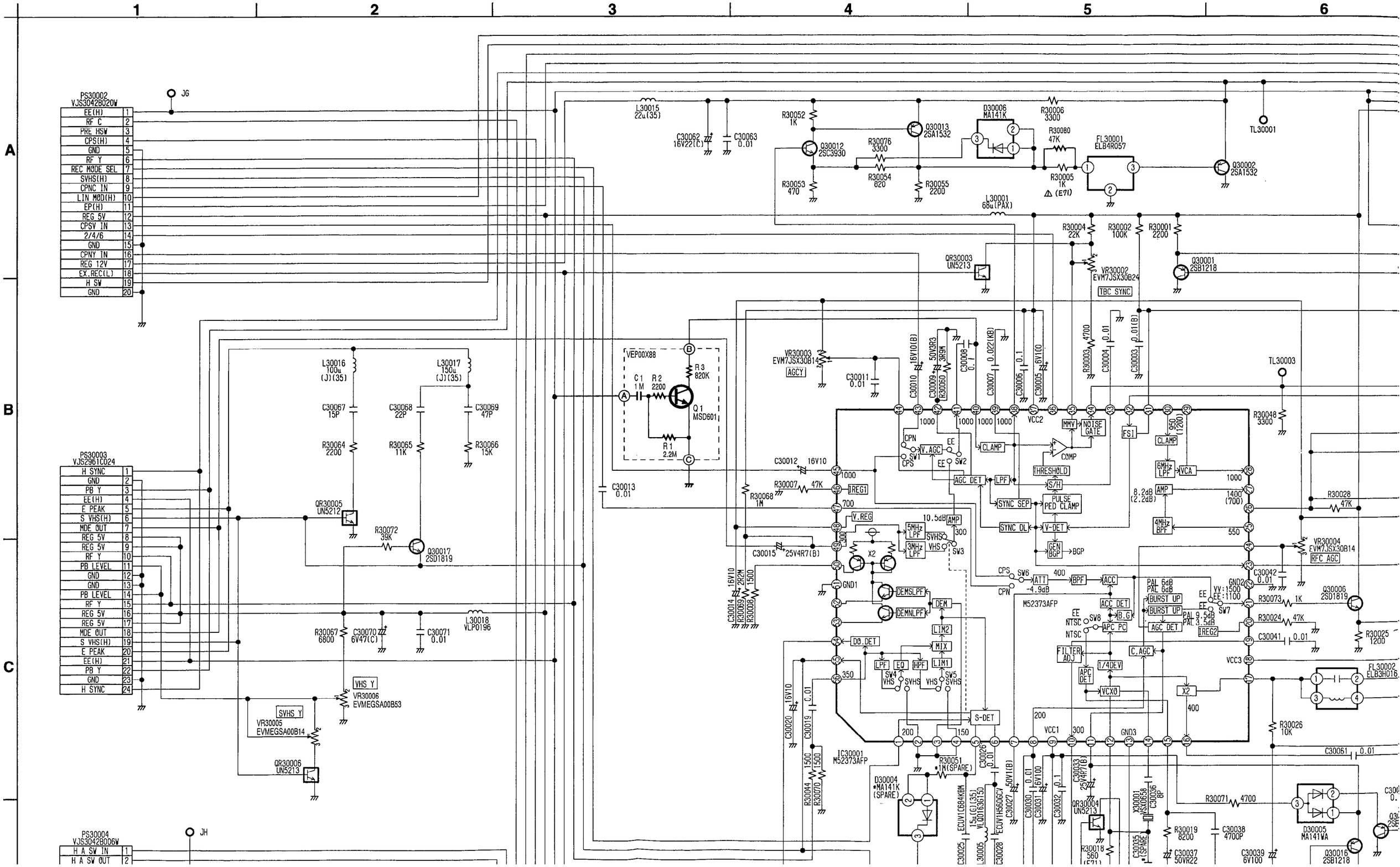
R33001
2K

5-36. ANALOG Y/C SCHEMATIC DIAGRAM



L30015 22u(35)
C30062 16V22(C)
C30063 0.01
R30052 1K
R30053 470
Q30012 2SC3930
Q30013 2SA1532
R30076 3300
R30054 820
R30055 2200
D30006 MA141K
R30080 47K
R30005 1K
⚠ (E71)
FL30001 ELB4R057
R30006 3300
TL30001
Q30002 2SA1532
L30001 68u(PAX)
R30004 22K
R30002 100K
R30001 2200
QR30003 UN5213
VR30002 EVM7JSX30B24
TBC SYNC
Q30001 2SB1218
QR30007 UN5213
R30074 22K
IC30002 TC4W66F
C30072 0.01

VEP00X88
C1 1M
R2 2200
R3 820K
Q1 MSD601
R1 2.2M
VR30003 EVM7JSX30B14
AGCY
C30011 0.01
C30013 0.01
C30012 16V10
R30007 47K
R30068 1M
C30015 25V4R7(B)
X2
C30014 16V10
R30069 2R2M
R30008 1500
GND1
DEMSLPF
DEMNLPF
DEM
D0.DET
LIM2
MIX
LIM1
LPF
EQ
HPF
SW4 VHS
SW5 SVHS
C30020 16V10
C30019 0.01
R30044 1500
R30070 1500
S-DET
IC30001 M52373AFP
R30051 *1M(SPARE)
Q30004 *MA141K (SPARE)
C30010 16V10(B)
C30009 50V3R3
R30060 3R9M
C30008 0.1
C30007 0.022(KB)
C30006 0.1
C30005 6V100
C30004 0.01
C30003 0.01(B)
R30003 4700
VCC2
MMV
NOISE GATE
FSI
CLAMP
950 (1200)
CPN
EE
V.AGC
SW1
CPS
SW2
COMP
THRESHOLD
S/H
AGC DET
LPF
SYNC SEP
PULSE PED CLAMP
SYNC DL
V-DET
GEN BGP
BGP
6MHz LPF
VCA
AMP
8.2dB (2.2dB)
4MHz BPF
1400 (700)
550
1000
700
300
200
150
350
V.REG
10.5dB AMP
5MHz LPF
3MHz LPF
SVHS
VHS
SW3
CPS SW6
CPN
ATT
-4.9dB
400
BPF
ACC
M52373AFP
ACC DET
B.G
APC PC
NTSC SW8
NTSC
FILTER ADJ
APC DET
1/4DEV
VCXO
X2
C.AGC
PAL 6dB
PAL 9.5dB
PAL 3.5dB
BURST UP
AGC DET
IREG2
EE SW7
VV:1500
EE:1100
GND2
VCC3
GND3
VCC1
C30042 0.01
R30073 1K
Q30006 2SD1819
TL30002
R30024 47K
C30041 0.01
R30025 1200
R30048 3300
D30003 MA141K
R30028 47K
R30027 47K
VR30004 EVM7JSX30B14
RFC AGC
L30006 68u(PAX)
L30014 68u(PAX)
FL30002 ELB3H016
R30049 33K
R30021 470
Q30005 2SD1819
Q30004 2SC3930
R30026 10K
C30061 0.01
C30058 0.01
C30040 0.1
R30062 3300
R30071 4700
D30005 MA141WA
Q30015 2SB1218
Q30016 2SB1218
R30018 560
C30035 *(SPARE)
X30001 WS30658
C30036 8P
R30019 8200
C30037 50VR22
C30038 4700P
C30039 6V100
C30030 0.01
C30031 16V100
C30032 0.1
C30033 25V4R7(B)
QR30004 UN5213
C30027 50V11(B)
C30028 ECUV1H560GCT
C30025 ECUV1C684KBM
C30026 0.01
R30062 3900
R30063 18K
C30062 6V47(C)
C30063 0.1
R30064 2200
R30065 470
R30066 470

LIN MOD(H) D
HSW D
TRICK(L) D
EE(H) D
EP(H) D
A/D Y IN D
D/A Y OUT D
FSI D
TBC SYNC D
H SYNC D
DOC D
D/A C OUT D
CLK 8F D
CPS(H) D
HASW IN D
GND D
A/D CIN D
HASW OUT D
TBC(H) D
STILL(L) D
REG 3.6V D
AD V D
ART V/H/N D
NORMAL(H) D
GND(A) D
ROTARY D
REG 3.3V D
EDIT(H) D
DIGITAL 5V D
SVHS(H) D
D/A REC Y D
REG 5V D
IC SYNC D
D/A REC C D

PS30003
VJS2961C024

H SYNC	1
GND	2
PB Y	3
EE(H)	4
E PEAK	5
S VHS(H)	6
MDE OUT	7
REG 5V	8
REG 5V	9
RF Y	10
PB LEVEL	11
GND	12
GND	13
PB LEVEL	14
RF Y	15
REG 5V	16
REG 5V	17
MDE OUT	18
S VHS(H)	19
E PEAK	20
EE(H)	21
PB Y	22
GND	23
H SYNC	24

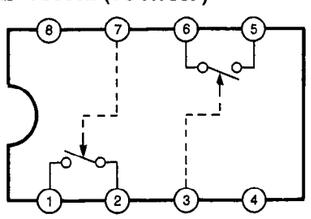
PS30004
VJS3042B006W

H A SW IN	1
H A SW OUT	2
TBC(H)	3
TBC SS(L)	4
REG 3.6V	5
AD V	6

PS30001
VJS3042B016W

——	1
H SYNC	2
ART V/H/N	3
NORMAL(H)	4
REC C	5
GND(A)	6
REC Y	7
ROTARY	8
REG 3.3V	9
Y OUT	10
EDIT(H)	11
DIGITAL 5V	12
C OUT	13
GND(A)	14
TRICK(L)	15
3.58MHz	16

■ IC30002 (TC4W66F)



IC30001
M52373AFP

M52373AFP

IC30001
M52373AFP

L30007
VLP0196

DIGITAL Y/C C.B.A.

REF. NO. / MODE	IC33001																			
1	2	3	4	5	6	7	8													
PLAY	0	0	0	0	1.8	1.6	3.3	3.3												
REF. NO. / MODE	IC33002																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
PLAY	3.3	0	2.6	1.7	1.7	0.4	5.1	0	3.5	5.1	0	1.2	1.5	0.8	0.1	2.8	3.4	0	0	0
REF. NO. / MODE	IC33002																			
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
PLAY	5.2	1.9	0	0	1.6	3.3	3.0	3.3	0	0	0	2.8	1.6	1.6	1.6	1.4	0.9	1.2	1.7	1.2
REF. NO. / MODE	IC33002																			
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
PLAY	1.6	1.6	1.6	1.3	0.8	1.1	1.8	1.2	1.7	1.8	1.7	1.4	0.9	1.1	0	1.2	3.3	0	0	0
REF. NO. / MODE	IC33002																			
61	62	63	64																	
PLAY	1.8	0	3.3	0.1																
REF. NO. / MODE	IC33003																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
PLAY	3.3	0	0.4	1.1	2.4	1.1	0.4	3.3	0	3.3	2.4	3.3	1.6	0	0.6	0	0.1	3.3	0	0
REF. NO. / MODE	IC33003																			
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
PLAY	3.2	3.2	3.3	0	2.2	1.2	1.1	1.3	1.3	1.2	1.3	1.3	2.0	0.8	1.0	1.1	1.2	1.1	1.1	1.3
REF. NO. / MODE	IC33003																			
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
PLAY	1.2	1.7	1.1	0.9	1.4	1.6	1.7	1.6	2.9	0	3.0	3.2	0	0	—	0	—	0	0	3.3
REF. NO. / MODE	IC33003																			
61	62	63	64																	
PLAY	3.4	3.3	3.1	3.1																
REF. NO. / MODE	IC33004																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
PLAY	0	0.1	0.1	0.1	0	0	0	0	0	0	0	0	0.2	0	0.2	0.3	3.2	0	0	0
REF. NO. / MODE	IC33004																			
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
PLAY	0	0	1.7	5.1	3.9	2.0	0	2.0	0	0	0.1	0	3.1	0	0	5.2	0	0	0	0
REF. NO. / MODE	IC33004																			
41	42	43	44	45	46	47	48													
PLAY	0	5.1	0	0	0	0.7	1.8	3.3												
REF. NO. / MODE	IC33005																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
PLAY	1.3	1.0	3.2	0	1.2	1.2	1.2	1.1	1.1	2.1	2.5	3.2	3.2	0	0	0	0	0	2.1	1.0
REF. NO. / MODE	IC33005																			
21	22	23 ~ 44		45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
PLAY	1.0	1.2	—		0	1.8	1.5	1.4	1.4	0	1.2	0.8	3.2	0	2.0	3.3	3.8	1.2	1.4	1.3
REF. NO. / MODE	IC33005																			
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
PLAY	1.5	3.8	1.2	1.7	1.2	0.8	1.4	1.7	1.7	1.6	1.1	1.7	1.1	0.9	1.4	1.7	0	3.2	1.5	1.6
REF. NO. / MODE	IC33005																			
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	
PLAY	0	0	0	0	0	1.6	3.2	1.7	0	1.9	0	0	1.6	1.5	1.6	1.4	0.8	1.1	1.7	1.2
REF. NO. / MODE	IC33006																			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
PLAY	3.2	0	0	0	3.3	0	0.4	0	0	3.2	2.0	0	1.0	0.9	0.1	1.1	1.1	0.1	1.6	1.2
REF. NO. / MODE	IC33006																			
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	
PLAY	1.9	1.0	0.1	1.3	0	1.6	1.5	0	3.3	3.2	0	3.2	3.3	3.3	1.6	1.5	1.4	1.8	1.7	1.2
REF. NO. / MODE	IC33006																			
41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	
PLAY	1.1	1.3	0	3.2	1.6	1.6	1.6	1.3	0.7	1.0	1.8	0	1.2	3.2	3.2	3.3	0.4	3.3	3.2	3.3
REF. NO. / MODE	IC33006																			
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	
PLAY	0	3.1	3.3	1.3	1.1	1.2	1.2	1.2	1.1	1.1	2.1	0.1	3.3	1.6	0	0	3.2	3.2	1.4	2.1

DIGITAL Y/C C.B.A.

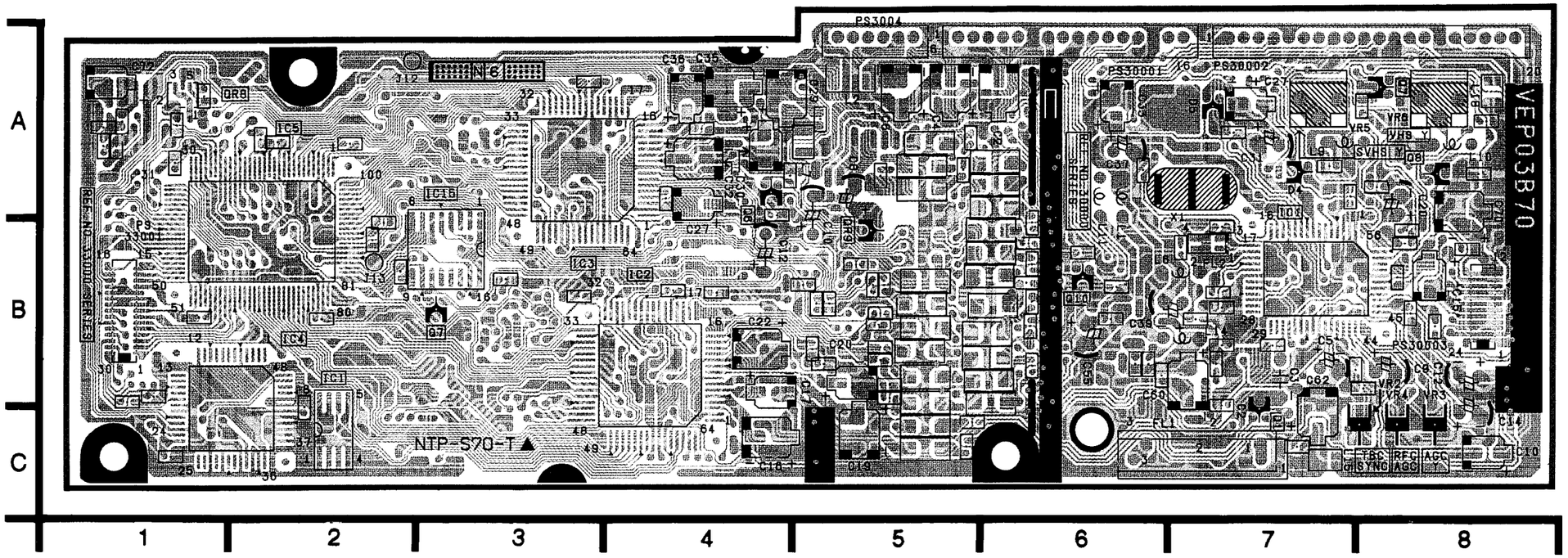
REF. NO.	IC33006																			
MODE	81	82	83	84																
PLAY	3.2	3.1	3.2	3.3																
REF. NO.	IC33010																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	3.2	3.7	3.2	3.2	0	0	0.1	0	0	0.4	0.4	0.4	0	0	0.8	1.0	1.8	1.2	0	1.2
REF. NO.	IC33010																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	1.8	1.0	0.8	3.2	3.2	0	1.5	1.5	1.6	1.3	0	0	1.4	1.6	1.6	1.6	3.2	3.3	0	1.3
REF. NO.	IC33010																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
PLAY	1.2	1.2	1.7	0	1.8	1.5	1.5	1.6	0	0.4	-0.8	0.5	0.6	0.6	-0.8	1.6	0	0	3.3	3.2
REF. NO.	IC33010																			
MODE	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
PLAY	3.7	3.3	3.3	0	0	1.7	0	1.7	0.4	0	3.2	3.2	3.7	-0.8	3.2	-0.8	0	0	1.4	0
REF. NO.	IC33010				IC33011					IC33012										
MODE	81	82	83	84	1	2	3	4	5	1	2	3	4	5	6	7	8			
PLAY	1.6	0	0	3.2	0	1.5	0	1.8	3.3	2.9	0	2.8	0	0.1	0.3	0.3	0			
REF. NO.	IC33014																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
PLAY	0	3.2	3.2	0.1	3.2	0	3.2	0	3.3	0	0.1	0	3.2	3.2	0	3.3				
REF. NO.	IC33015																Q33001			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	E	C	B	
PLAY	0.2	0	0	0.2	0.2	0	0	0	0	0	0	0	-0.2	-0.2	0	3.3	2.1	5.1	2.7	
REF. NO.	Q33002			Q33003			Q33004			Q33005			Q33006			Q33007				
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	1.9	0	1.2	1.4	0	0.8	0.7	0	3.0	1.0	0	0.4	1.0	0	0.4	0	0	3.4		
REF. NO.	QR33003			QR33004			QR33005			QR33008					QR33009			QR33010		
MODE	E	C	B	E	C	B	E	C	B	1	2	3	4	5	E	C	B	E	C	B
PLAY	0	0	3.2	3.3	3.2	0	3.2	3.2	3.1	0	0.1	0	0	1.8	3.2	3.2	3.2	0.5	0	3.2
REF. NO.	QR33011																			
MODE	E	C	B																	
PLAY	3.2	3.2	0.1																	

ANALOG Y/C C.B.A.

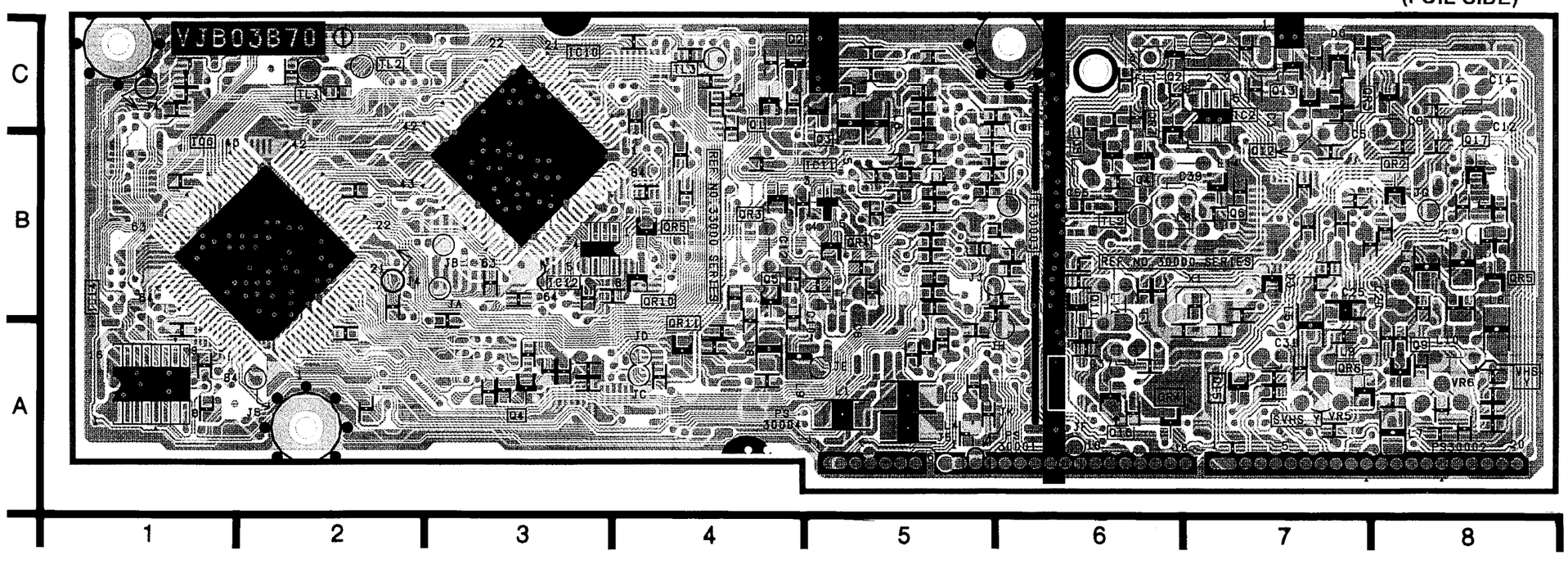
REF. NO.	IC30001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
PLAY	5.1	0	0.2	0	0.4	3.3	0.2	3.0	5.1	2.0	2.9	3.6	0	2.3	1.4	3.7	5.1	5.1	2.7	0.8
REC	5.1	0	0.2	0	3.0	3.3	2.9	4.1	5.1	2.0	2.5	3.6	0	2.3	1.4	3.7	5.1	5.1	2.7	0.9
REF. NO.	IC30001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
PLAY	2.7	0	0.3	0.7	3.3	2.4	2.1	2.3	0.1	3.1	2.8	4.8	3.3	3.1	2.0	0	4.9	1.6	2.7	2.9
REC	2.7	0	0.4	0.7	3.3	4.9	2.1	2.3	0.3	3.2	2.8	4.6	3.3	2.9	0	0	4.9	1.7	2.7	3.0
REF. NO.	IC30001																			
MODE	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56				
PLAY	1.5	1.5	3.0	2.3	3.0	0.9	3.0	3.0	3.4	0	0	0.8	2.6	3.0	0.1	3.0				
REC	1.8	2.1	3.0	2.3	3.0	0.9	3.0	3.0	3.0	0	0	0.6	0.7	2.2	0.1	3.2				
REF. NO.	IC30002								Q30001			Q30002			Q30004			Q30005		
MODE	1	2	3	4	5	6	7	8	E	C	B	E	C	B	E	C	B	E	C	B
PLAY	0.3	0.3	0	0	0.3	0.3	0	4.9	2.1	0	1.4	2.7	0	2.0	0.8	4.1	1.6	3.5	5.1	4.1
REC	0.4	0.4	0	0	0.3	0.4	4.9	4.9	2.0	0	1.4	2.8	0	2.0	0.9	4.2	1.6	3.6	5.1	4.1
REF. NO.	Q30006			Q30007			Q30008			Q30009			Q30010			Q30011				
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	2.0	4.9	2.6	1.9	5.1	2.5	1.9	1.9	0.1	1.2	3.9	1.8	5.0	5.1	4.1	5.0	5.1	2.8		
REC	2.0	4.9	2.6	1.9	5.1	2.5	1.9	1.9	0.1	1.2	3.9	1.9	3.3	5.1	3.9	5.0	5.1	2.8		
REF. NO.	Q30012			Q30013			Q30015			Q30016			Q30017							
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B					
PLAY	0.9	11.6	1.6	12.2	2.0	11.5	2.2	0	1.6	2.9	0	3.0	0.1	0.1	0.7					
REC	0.9	11.6	1.6	12.3	1.9	11.6	2.2	0	1.6	2.4	0	2.2	0.1	0.1	0.7					
REF. NO.	QR30002			QR30003			QR30004			QR30005			QR30006			QR30007				
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B		
PLAY	5.0	3.0	0	0	2.0	0	0	3.0	0	0	0.4	0.1	0	1.2	0.1	0	4.9	0		
REC	5.0	4.1	4.9	0	0	3.9	0	0	4.9	0	0.4	0.1	0	1.2	0.1	0	0	4.9		

5-37. LUMINANCE & CHROMINANCE PACK C.B.A.

(COMPONENT SIDE)



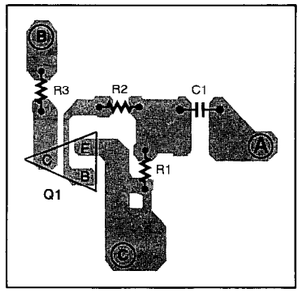
(FOIL SIDE)



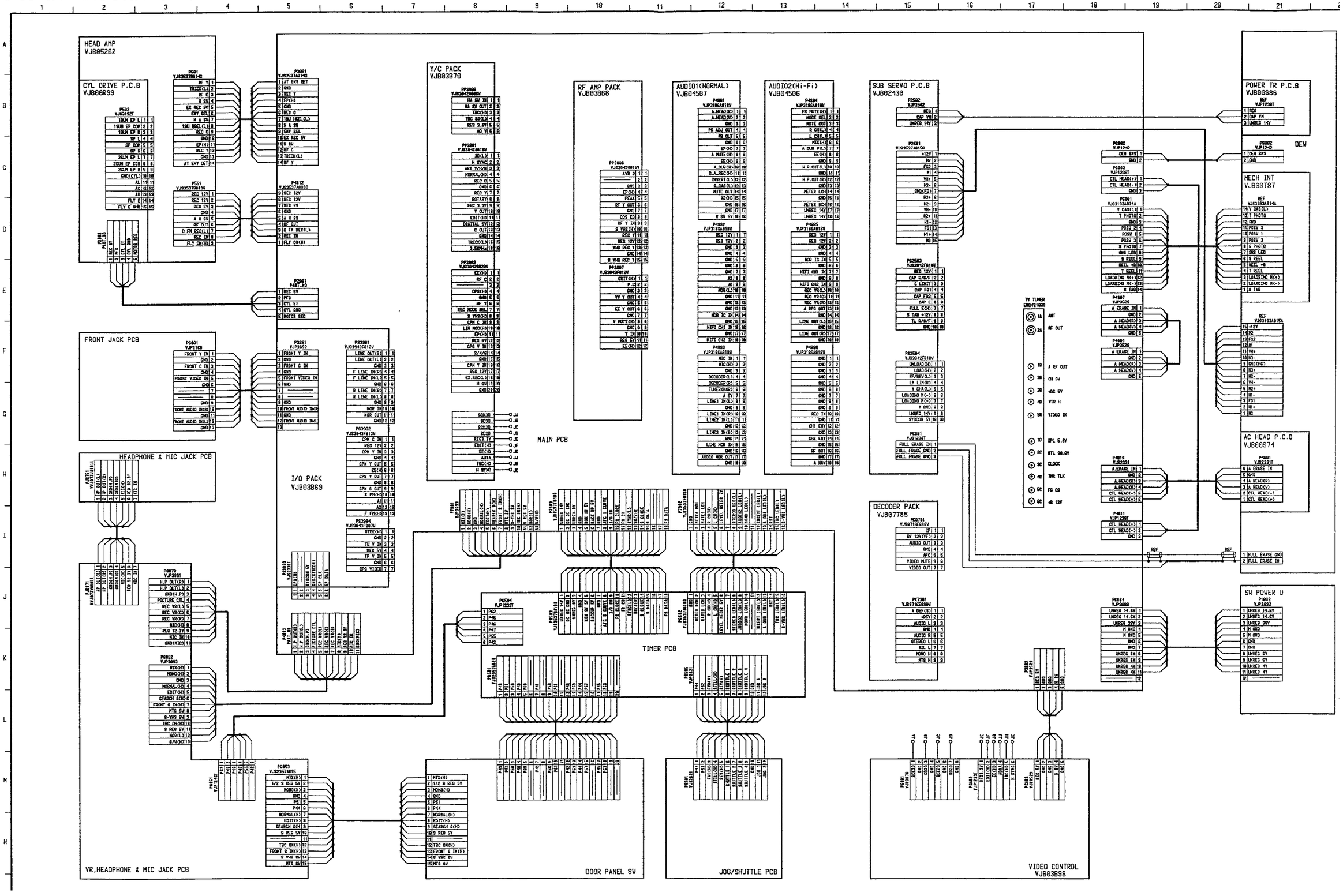
LUMINANCE & CHROMINANCE PACK C.B.A.			
Transistor		**Integrated Circuit**	
Q30001	C-7 (C)	IC30001	B-7 (C)
Q30002	C-6 (F)	IC30002	C-7 (F)
Q30004	B-6 (F)	IC33001	C-2 (C)
Q30005	B-6 (F)	IC33002	B-4 (C)
Q30006	B-7 (F)	IC33003	A-3 (C)
Q30007	A-8 (C)	IC33004	B-2 (C)
Q30008	A-8 (C)	IC33005	B-2 (C)
Q30009	A-8 (F)	IC33006	B-1 (F)
Q30010	B-6 (C)	IC33010	C-3 (F)
Q30011	B-6 (F)	IC33011	B-5 (F)
Q30012	C-7 (F)	IC33012	B-3 (F)
Q30013	C-7 (F)	IC33014	A-1 (F)
Q30015	A-7 (F)	IC33015	B-3 (C)
Q30016	A-6 (F)		
Q30017	B-8 (F)	**Test Land**	
Q33001	C-4 (F)		
Q33002	C-4 (F)	TL30001	C-7 (F)
Q33003	B-5 (F)	TL30002	B-6 (F)
Q33004	A-3 (F)	TL30003	B-6 (F)
Q33005	B-4 (F)	TL33001	C-2 (F)
Q33006	A-4 (C)	TL33002	C-2 (F)
Q33007	B-3 (C)	TL33003	C-4 (F)
Transistor & Resistor		**Adjustment**	
QR30002	B-8 (F)	VR30002	C-8 (C)
QR30003	C-8 (F)	VR30003	C-8 (C)
QR30004	A-6 (F)	VR30004	C-8 (C)
QR30005	B-8 (F)	VR30005	A-8 (F),(C)
QR30006	A-7 (F)	VR30006	A-8 (F),(C)
QR30007	C-6 (F)		
QR33003	B-4 (F)	**Connector**	
QR33004	B-5 (F)		
QR33005	B-4 (F)	PS30001	A-6 (F),(C)
QR33008	A-2 (C)	PS30002	A-7 (F),(C)
QR33009	B-5 (C)	PS30003	B-8 (C)
QR33010	B-4 (F)	PS30004	A-5 (F),(C)
QR33011	A-4 (F)	PS33001	B-1 (F),(C)

ADDRESS INFORMATION
(F) ..... FOIL SIDE
(C) ..... COMPONENT SIDE

5-38. ANALOG Y/C SUB C.B.A.



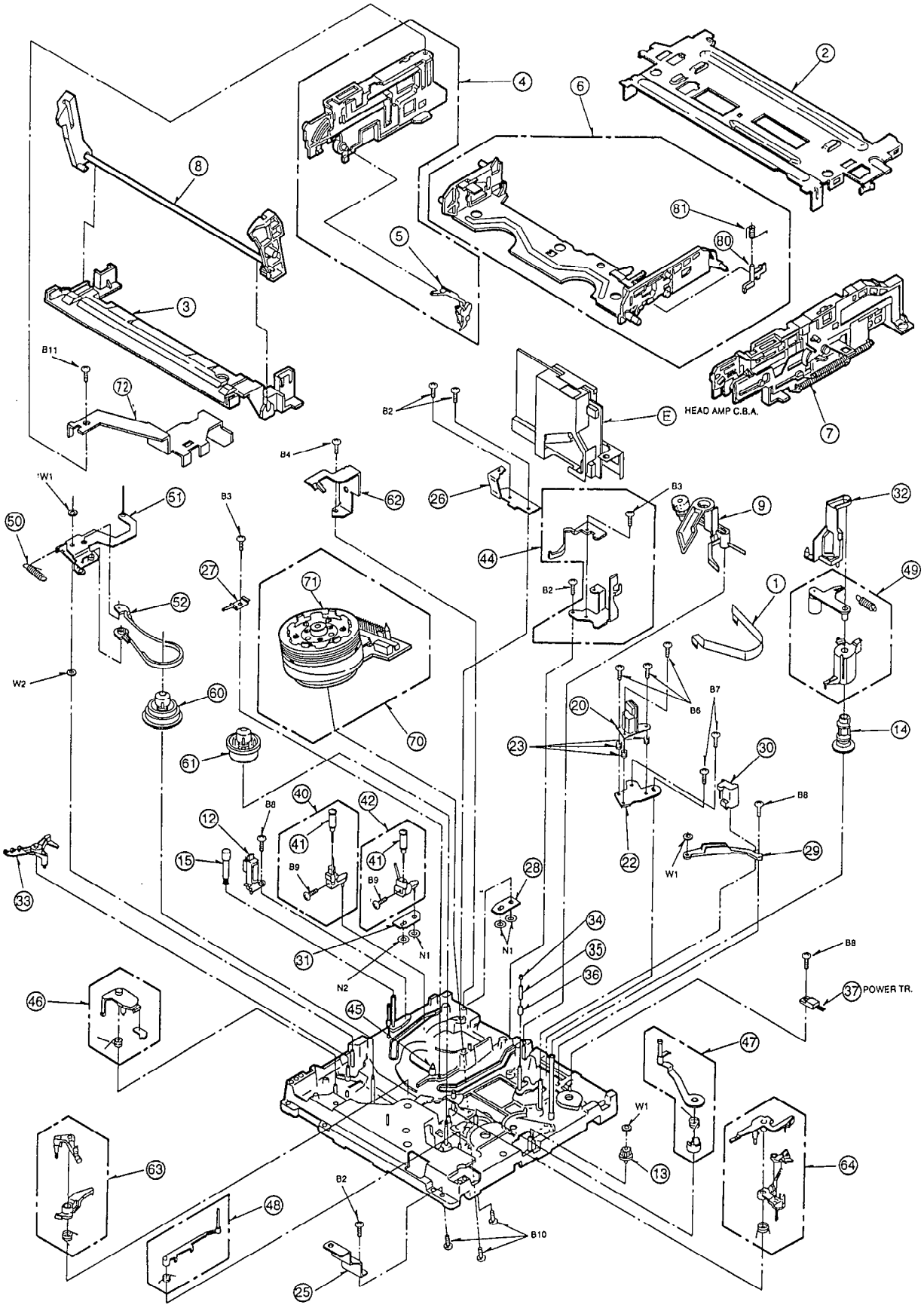
5-39. INTERCONNECTION SCHEMATIC DIAGRAM



SECTION 6. EXPLODED VIEWS & PARTS LIST

6-1. EXPLODED VIEW MECHANICAL REPLACEMENT PARTS LIST

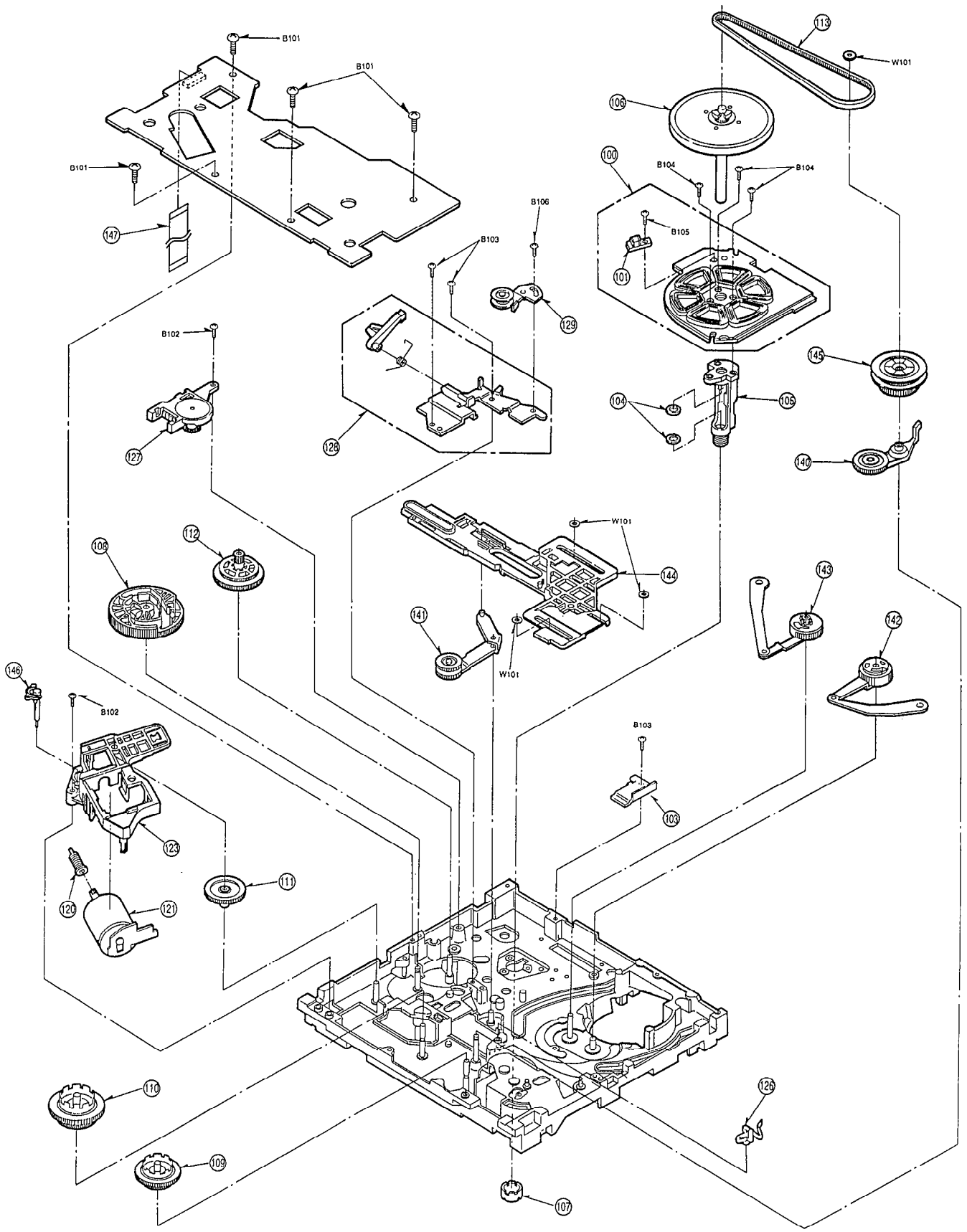
1. CHASSIS PARTS SECTION (1)



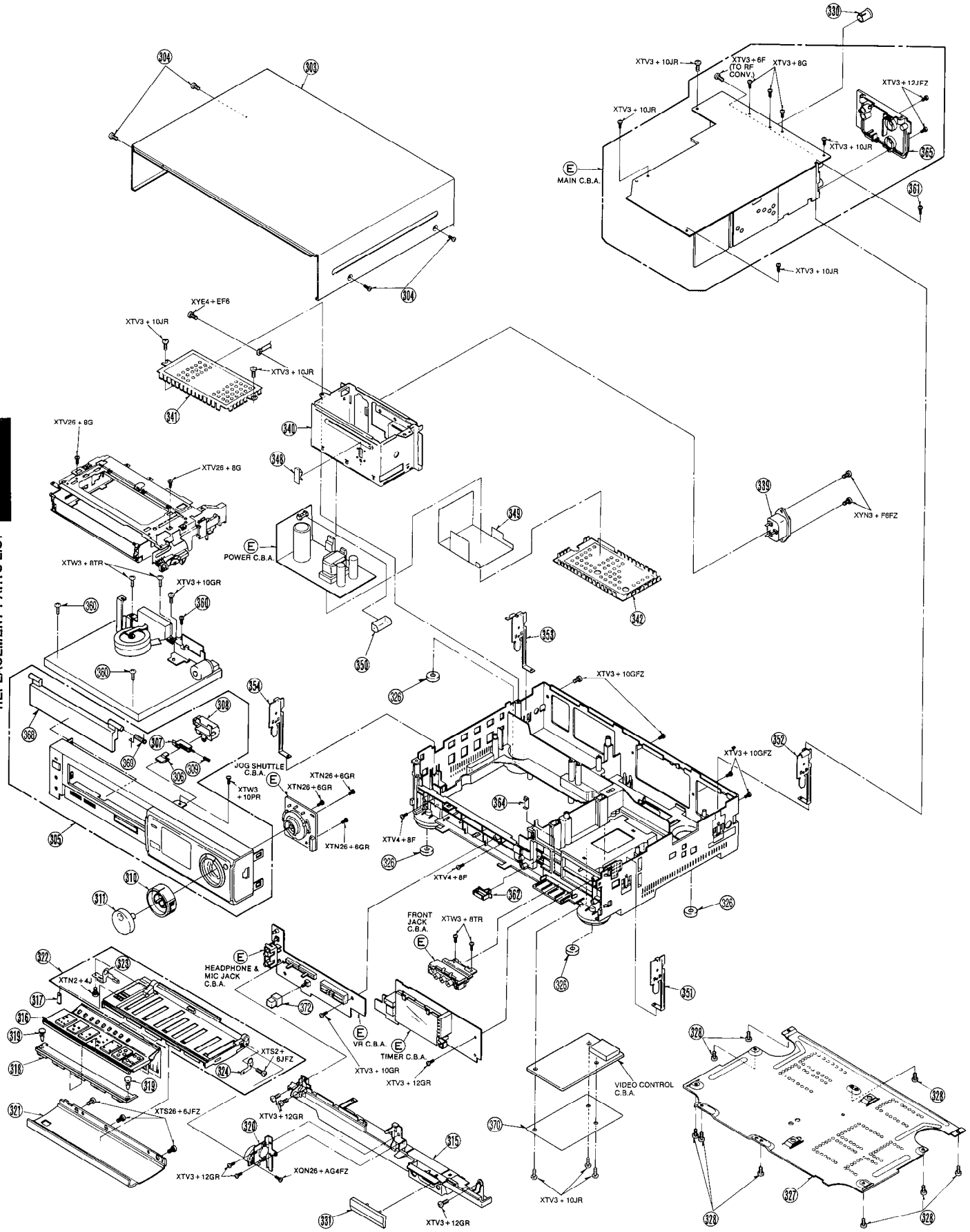
Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
1(1)	VWJ0758	FLEXIBLE CABLE (6P)	1	P4001-P1501
2(1)	VMA8644	TOP PLATE	1	
3(1)	VMA8787	CASSETTE GUIDE	1	
4(1)	VXA4660	SIDE PLATE (L) UNIT	1	
5(1)	VML2902	OPENER LEVER UNIT	1	
6(1)	VXA4661	CASSETTE HOLDER PLATE UNIT	1	
7(1)	VXA4806	SIDE PLATE (R) UNIT	1	
8(1)	VXP1339	MAIN SHAFT UNIT	1	
9(1)	VML2440	CLEANER ARM BASE	1	
12(1)	VBS0052	FE HEAD	1	
13(1)	VDG0871	CARRIAGE CONNECTION GEAR	1	
14(1)	VDG0886	PINCH CAM GEAR	1	
15(1)	VXP1517	IMPEDANCE ROLLER UNIT	1	
20(1)	VED0217	A/C HEAD (1) UNIT	1	
22(1)	VMA8624	A/C HEAD BASE	1	
23(1)	VMB2515	A/C HEAD SPRING	3	
25(1)	VMA8761	MOUNT ANGLE	1	
26(1)	VMA8810	HEAD AMP MOUNT ANGLE (L)	1	
27(1)	VMC0917	EARTH SPRING	1	
28(1)	VMA8874	INCLIND BASE HOLDER (S)	1	
29(1)	VMD2078	P5 STOPPER BASE	1	
30(1)	VXA4927	P5 POST STOPPER	1	
31(1)	VMA8873	INCLIND BASE HOLDER (T)		
32(1)	VMD2101	OPENER PIECE	1	
33(1)	VML2776	TENSION SPRING ARM	1	
34(1)	VMX1544	P4 UPPER LIMITER	1	
35(1)	VMX2175	P4 SLEEVE	1	
36(1)	VMX2176	P4 LOWER LIMITER	1	
37(1)	2SB941PSW	POWER TRANSISTOR	1	
40(1)	VXA5245KIT	INCLINED BASE (S) UNIT	1	
41(1)	VXP1415	ROLLER POST	2	
42(1)	VXA5247KIT	INCLINED BASE (T) UNIT	1	
44(1)	VXA5170	HEAD AMP MOUNT ANGLE (R) U.	1	
45(1)	VMS5383	CASSETTE POSITION FIXTURE	1	
46(1)	VXL2310	REVIEW ARM UNIT	1	
47(1)	VXL2306	P5 ARM UNIT	1	
48(1)	VXL2394	TAKE UP TENSION REGULATOR	1	
		ARM UNIT		
49(1)	VXL2246	PINCH ARM UNIT	1	
50(1)	VMB2434	TENSION SPRING	1	
51(1)	VXL2309	TENSION ARM (1) UNIT	1	
52(1)	VXZ0310	TENSION BAND UNIT	1	
60(1)	VXR0236	SUPPLY REEL TABLE UNIT	1	
61(1)	VXR0237	TAKE UP REEL TABLE UNIT	1	
62(1)	VXS0131	EARTH PLATE UNIT	1	
63(1)	VXZ0312	SUPPLY BRAKE ARM UNIT	1	
64(1)	VXZ0313	TAKE UP BRAKE ARM UNIT	1	
70(1)	VEG1207	CYLINDER UNIT	1	
71(1)	VXP1537	UPPER CYLINDER UNIT	1	
72(1)	VMA9201	CYLINDER ANGLE	1	
80(1)	VML2680	RELEASE LEVER	1	
81(1)	VMB2013	RELEASE SPRING	1	
B2(1)	XTV26+6F	SCREW	4	
B3(1)	XTV26+4F	SCREW	2	
B4(1)	XTN3+6FFZ	SCREW	1	
B6(1)	VHD0762	SCREW	3	
B7(1)	XTV26+6FZ	SCREW	2	
B8(1)	XTV26+8F	SCREW	3	
B9(1)	XQN2+AJ4	SCREW	2	
B10(1)	VHD0342	SCREW	3	
B11(1)	XTS26+8G	SCREW	1	
N1(1)	VHN0192	NUT	3	
N2(1)	VHN0193	NUT	1	
W1(1)	VMX2208	WASHER	3	
W2(1)	XWGV26D5G	WASHER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
100(2)	VEK5927	STATOR UNIT	1	
101(2)	VBK0061	FG HEAD	1	
103(2)	VMA8930	ROTOR STOPPER	1	
104(2)	VMX1927	OIL SEAL	2	
105(2)	VXD0140	HOUSING UNIT	1	
106(2)	VXP1528	ROTOR UNIT	1	
107(2)	VXQ0297	THRUST SCREW UNIT	1	
108(2)	VDG0913	MAIN CAM GEAR	1	
109(2)	VDG0956	SUPPLY REEL GEAR	1	
110(2)	VDG0957	TAKE UP REEL GEAR	1	
111(2)	VDG0868	WORM WHEEL GEAR	1	
112(2)	VDG0885	SUB CAM GEAR	1	
113(2)	VDV0235	TIMING BELT	1	
120(2)	VDG0866	WORM GEAR	1	
121(2)	VEM0427	LOADING MOTOR (1) UNIT	1	
123(2)	VMD1942	MOTOR BRACKET	1	
126(2)	VML2725	IDLER CONTROL LEVER	1	
127(2)	VSS0365	MODE SW	1	
128(2)	VXA5138	SS BRAKE BASE UNIT	1	
129(2)	VXA4799	TENSION ROLLER UNIT	1	
140(2)	VXL2378	IDLER ARM UNIT	1	
141(2)	VXL2372	DIRECT LEVER UNIT	1	
142(2)	VXL2299	SUPPLY LOADING ARM UNIT	1	
143(2)	VXL2300	TAKE UP LOADING ARM UNIT	1	
144(2)	VXL2307	MAIN LEVER UNIT	1	
145(2)	VXP1409	CENTRE CLUTCH	1	
146(2)	VMD2153	S-VHS SW ACTUATER	1	
147(2)	VWJ14AW230M0	FLEXIBLE CABLE	1	
B101(2)	XTV26+6FR	SCREW	1	
B102(2)	XTV26+8F	SCREW	2	
B103(2)	XTV26+6F	SCREW	3	
B104(2)	VHD0753	SCREW	3	
B105(2)	VHD0754	SCREW	1	
B106(2)	XSB26+4FZ	SCREW	1	
W101(2)	VMX2208	WASHER	4	

2. CHASSIS PARTS SECTION (2)



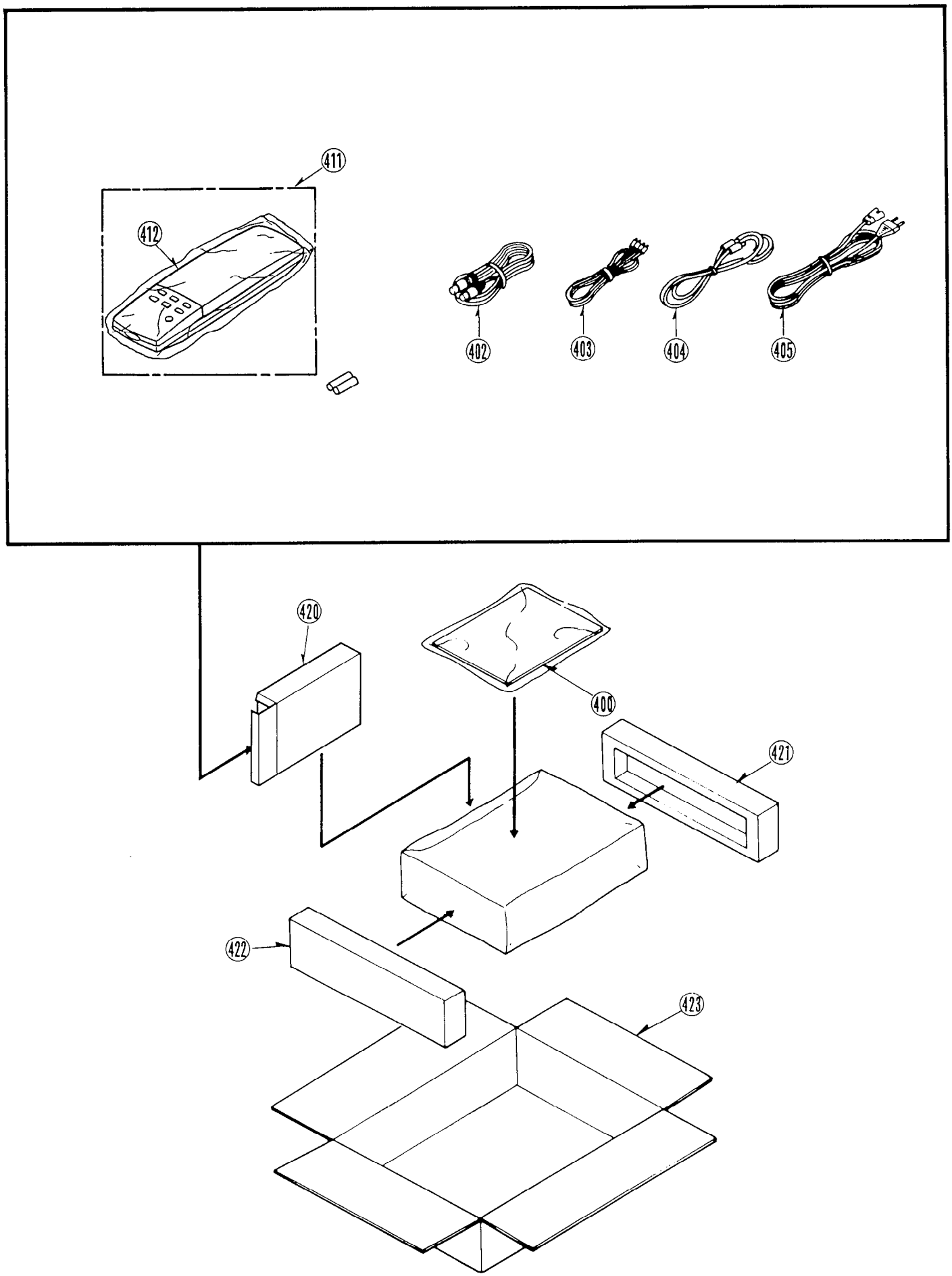
3. CASING PARTS SECTION



Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
303(4)	VGM1155	TOP PANEL	1	
304(4)	VHD0165	TOP PANEL SCREW	4	
305(4)	VYP5850	FRONT PANEL (1) UNIT	1	
306(4)	VGU5246	DOOR OPEN BUTTON	1	
307(4)	VGU4498	DOOR LOCK LEVER	1	
308(4)	VGU4829	LOCK LEVER HOLDER	1	
309(4)	VMB1963	LOCK LEVER SPRING	1	
310(4)	VGU5846	SHUTTLE KNOB	1	
311(4)	VXU1088	JOG KNOB UNIT	1	
315(4)	VYF2160	SUPPORT PANEL UNIT	1	
316(4)	VES0712	DOOR PANEL SW	1	
317(4)	VGU0466	PANEL LIGHT	1	
318(4)	VKF1852	DOOR SUPPORT PANEL	1	
319(4)	VMG0657	DOOR CUSHION RUBBER	2	
320(4)	VXU1101	DOOR GEAR UNIT	1	
321(4)	VYC0654	DOOR ALUMINUM UNIT	1	
322(4)	VYP4016	DOOR PANEL UNIT	1	
323(4)	VMC0522	DOOR EARTH SPRING	1	
324(4)	VMP2314	DOOR PANEL ANGLE	1	
327(4)	VKU0357	BOTTOM PLATE	1	
328(4)	VHD0059	BOTTOM PLATE SCREW	1	
330(4)	VGQ1421	EDIT 5P CAP	1	
331(4)	VKF1314	FRONT JACK COVER	1	
336(4)	VKA0193	FOOT	2	
339(4)	VJS2985	AC INLET	1	
340(4)	VXA3571	POWER SHIELD PLATE(MAIN) U.	1	
341(4)	VSC4224	POWER SHIELD PLATE (TOP)	1	
342(4)	VSC2237	POWER SHIELD PLATE (BOTTOM)	1	
344(4)	VSC2960	HEAT SINK (P)	1	
346(4)	VGQ1615	IC HOLDER	1	
347(4)	VMZ1455	INSULATION SHEET	1	
348(4)	VMC0357	TR. HOLDER SPRING	2	
349(4)	VMZ2381	BARRIER	1	
350(4)	VMZ0429	FUSE COVER	1	
351(4)	VMP2334	TOP HOLDER ANGLE (FRONT-R)	1	
352(4)	VMP2335	TOP HOLDER ANGLE (REAR-R)	1	
353(4)	VMP4683	TOP HOLDER ANGLE (REAR-L)	1	
354(4)	VMP4682	TOP HOLDER ANGLE (FRONT-L)	1	
360(4)	VHD0168	CHASSIS SCREW	3	
361(4)	VHD0418	MAIN SCREW	1	
362(4)	VJF0102	WIRE SADDLE	1	
364(4)	VMC0523	FRONT JACK EARTH PLATE	1	
365(4)	VJH0820	RF ANT TERMINAL PLATE	1	
367(4)	VJF0974	FLEXIBLE CARD CLIP	1	
368(4)	VKF2127	BLINDER PANEL	1	
369(4)	VMB2521	SPRING	1	
370(4)	VMZ1708	FRONT BARRIER	1	
372(4)	VGU6899	RESET BUTTON	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
400(5)	VQT6096	OPERATING INSTRUCTIONS	1	<!>
402(5)	VJA0147	ANT CABLE	1	
403(5)	VJA0231	AUDIO CABLE	1	
404(5)	VJA0658	S-VIDEO 4P CABLE	1	
405(5)	VJA0488	AC CORD	1	<!>
411(5)	VEQ1711	REMOTE CONTROLLER	1	
412(5)	VKF2115	SLIDE DOOR PANEL	1	
420(5)	VPK0825	ACCESSORIES PACKING	1	
421(5)	VPN3400	CUSHION (R)	1	
422(5)	VPN3401	CUSHION (L)	1	
423(5)	VPG7986	PACKING	1	

4. PACKING PARTS SECTION



6-2. ELECTRICAL REPLACEMENT PARTS LIST

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP06A07A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		JOG ENCODER		
	VEP01617A	P.C.BOARD W/COMPONENT	1	(RTL)<!><R>
		POWER		
	VEP00T87A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		MECHA CONNECTION		
	VEP03B70A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		Y/C PACK		
	VEP03B48C	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		SUB VIDEO		FOR VEP03B70A
	VEP03B60A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		MEMORY PACK		FOR VEP03B70A
	VEP03B98A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		VIDEO CONTROL		
	VEP04508A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		FRONT JACK		
	VEP05202H	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		HEAD AMP		
	VEP06A05A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		MAIN		
	VEP00X63A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		M. M		FOR VEP06A05A
	VEP02439A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		SUB SERVO		FOR VEP06A05A
	VEP03B68A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		RF AMP		FOR VEP06A05A
	VEP03B69A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		I/O		FOR VEP06A05A
	VEP04506A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		AUDIO 2		FOR VEP06A05A
	VEP04353B	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		FM AUDIO PACK		FOR VEP06A05A
	VEP04507A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		AUDIO 1		FOR VEP06A05A
	VEP06A06A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		FRONT VR		
	VEP00V50A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		HP/MIC		FOR VEP06A06A
	VEP07800A	P.C.BOARD W/COMPONENT	1	(RTL)<R>
		TIMER		
	VEP00Z16A	Sub Y/C board	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP06A07A	P.C.BOARD W/COMPONENT		
		JOG ENCODER		
LD6701-03	LN38GCPPV	LED	3	
P6701	VJS2621	CONNECTOR (FEMALE)	1	
R6701-03	ERDS2TJ221	C.RESISTOR 1/4W 220	3	
SW6701	EVQ11407K	SWITCH	1	<R>
VSQ0798	VSQ0798	JOG ENCORDER	1	
		MISCELLANEOUS		
	VMX1652	LED SACER		
	VEP01617A	P.C.BOARD W/COMPONENT		
		POWER		
C1001	ECQU2A683MN	P.CAPACITOR 100V 0.068U	1	<!>
C1002	VCK0043	FILTER	1	<!>
C1004	VCK0043	FILTER	1	<!>
C1008	VCK0046	C.CAPACITOR	1	<!>
C1009	ECEC2VA121	E.CAPACITOR 350V 120U	1	
C1010	ECEA1VFE101	E.CAPACITOR 35V 100U	1	
C1011	ECKF1H471KB	C.CAPACITOR 50V 470P	1	
C1012	ECEA1HFE560	E.CAPACITOR 50V 56U	1	
C1014	ECA1EXLV220	E.CAPACITOR 25V 22U	1	
C1017	ECEA1AGE221	E.CAPACITOR 10V 220U	1	
C1019	ECA0JFQ331	E.CAPACITOR 6.3V 330U	1	
C1020	ECEA1AGE221	E.CAPACITOR 10V 220U	1	
C1021	ECCD2H101J	C.CAPACITOR 500V 100P	1	
C1023	ECEA1CFE331	E.CAPACITOR 16V 330U	1	
C1024	ECCD2H101J	C.CAPACITOR 500V 100P	1	
C1025	ECEA1HFE560	E.CAPACITOR 50V 56U	1	
C1029	ECQB1H333JF	P.CAPACITOR 50V 0.033U	1	
C1030	VCK0106K222	C.CAPACITOR	1	
D1001	ERZV07D471	DIODE	1	<!><R>
D1002-05	EM1B	DIODE	4	<!><R>
D1006	ERA22-02	DIODE	1	<R>
D1007	MA165VT	DIODE	1	<R>
D1008	MA723VT	DIODE	1	<R>
D1009-11	MA165VT	DIODE	3	<R>
D1012	F5KQ40	DIODE	1	<R>
D1013	11EQS04	DIODE	1	<R>
D1014	FMB-G16R	DIODE	1	<R>
D1015	ERA22-02	DIODE	1	<R>
D1018	MA4056H	DIODE	1	<R>
F1001	XBA1C16NU100	FUSE	1	<!>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC1001	STRS6705	IC	1	
L1001	ELF18D270A	COIL 27UH	1	<!>
L1002-04	VLQ0611K220	COIL 22UH	3	
L1005	VLQ0599J101	COIL 100UH	1	
L1006,07	VLP0074	COIL	2	
P1001	VJS2985	CONNECTOR	1	<!>
P1002	VJP3092	CONNECTOR (MALE)	1	
Q1001	PC817AB	TRANSISTOR	1	<R>
Q1002,03	2SD636-R	TRANSISTOR	2	<R>
Q1004	2SB641-R	TRANSISTOR	1	<R>
Q1006	2SD637-R	TRANSISTOR	1	<R>
R1001	ERC12ZGK685	S.RESISTOR 1/2W 6.8M	1	<!>
R1002	VSF0055	FUSE	1	<!>
R1003	ERDS2FJ224	C.RESISTOR 1/4W 220K	1	
R1004	ERDS2FJ682	C.RESISTOR 1/4W 6.8K	1	
R1005	ERDS2FJ153	C.RESISTOR 1/4W 15K	1	
R1006	ERDS2FJ330	C.RESISTOR 1/4W 33	1	
R1007	ERDS2FJ1R5	C.RESISTOR 1/4W 1.5	1	
R1008	ERX1SJR68	M.RESISTOR 1W 0.68	1	
R1009	ERDS2FJ681	C.RESISTOR 1/4W 680	1	
R1010	ERDS2FJ151	C.RESISTOR 1/4W 150	1	
R1011	ERDS2FJ331	C.RESISTOR 1/4W 330	1	
R1012	ERDS2FJ683	C.RESISTOR 1/4W 68K	1	
R1013	ERDS2FJ473	C.RESISTOR 1/4W 47K	1	
R1014	ERDS2FJ471	C.RESISTOR 1/4W 470	1	
R1017	ERDS2FJ471	C.RESISTOR 1/4W 470	1	
R1018	ERDS2FJ221	C.RESISTOR 1/4W 220	1	
R1020	ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R1021	ERDS2TJ562	C.RESISTOR 1/4W 5.6K	1	
R1022	ERDS2TJ182	C.RESISTOR 1/4W 1.8K	1	
R1023	ERDS2TJ563	C.RESISTOR 1/4W 56K	1	
R1024	EROS2CKG2702	M.RESISTOR 1/4W 27K	1	
R1025,26	EROS2CKG8201	M.RESISTOR 1/4W 8.2K	2	
T1001	VLT0748	TRANSFORMER	1	<!>
		MISCELLANEOUS		
	VJF0318	FUSE HOLDER	2	<!>
	VMC0811	SPRING	1	
	VMZ0965	CAPACITOR COVER	3	<!>
	VMZ1356	CAPACITOR COVER	1	<!>
	VMZ1686	CAPACITOR COVER	1	<!>
	VSC4096	HEAT SINK	1	
	VMZ1835	SHIELD COVER	1	<!>
	VMZ0429	COVER	1	<!>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP03B70A	P.C.BOARD W/COMPONENT		
		Y/C PACK		
	VEP03B48C	P.C.BOARD W/COMPONENT		ON VEP03B70A
		SUB VIDEO		
	VEP03B60A	P.C.BOARD W/COMPONENT		ON VEP03B70A
		MEMORY PACK		
C3702	ECUX1C333KBV	C.CAPACITOR CH 16V 0.033U	1	
C3703	ECUX1C473ZFV	C.CAPACITOR CH 16V 0.047U	1	
C3704	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C3705	ECUX1H821JCV	C.CAPACITOR CH 50V 820P	1	
C3706	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C3708	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
C3709-11	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C3712	ECUX1H150JCV	C.CAPACITOR CH 25V 1U	1	
C3713	ECUX1H221GCV	C.CAPACITOR CH 50V 220P	1	
C3714	ECUX1H471GCV	C.CAPACITOR CH 50V 470P	1	
C3715-17	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C30003	ECQB1H103JZ	P.CAPACITOR 50V 0.01U	1	
C30004	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30005	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C30006	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C30007	ECUX1E223KBV	C.CAPACITOR CH 25V 0.023U	1	
C30008	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C30009	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C30010	ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C30011	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30012	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C30013	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30014	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C30015	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C30019	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30020	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C30025	ECUM1C684KBM	C.CAPACITOR CH 16V 0.68U	1	
C30026	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30027	ECEV1HA010	E.CAPACITOR 50V 1U	1	
C30028	ECUX1H560GCV	C.CAPACITOR CH 50V 56P	1	
C30030	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30031	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C30032	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C30033	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C30034	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C30036	ECUX1H080DCV	C.CAPACITOR CH 50V 8P	1	
C30037	ECEA1HKAR22	E.CAPACITOR 50V 0.22U	1	
C30038	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C30039	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C30040	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C30041,42	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C30045	ECUX1H330JCV	C.CAPACITOR CH 50V 33P	1	
C30046	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	1	
C30047	ECUX1H681KBV	C.CAPACITOR CH 50V 680P	1	
C30048,49	ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	
C30050,51	ECUX1H151JCV	C.CAPACITOR CH 50V 150P	2	
C30052-54	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	3	
C30055	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C30058	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30059	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C30060	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C30061	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30062	ECEV1CA220	E.CAPACITOR CH 16V 22U	1	
C30063	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C30067	ECUX1H150JCV	C.CAPACITOR CH 25V 1U	1	
C30068	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	1	
C30069	ECUX1H470JCV	C.CAPACITOR CH 50V 47P	1	
C30070	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C30071,72	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	2	
C33001	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33002	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C33003	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33004	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C33005	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33006	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C33007	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33008	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C33009	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33010	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C33011	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33012	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C33013,14	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C33015	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C33016	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C33017	ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C33018	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33019	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C33020	ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C33021	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33022	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C33023-26	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C33027	ECEV1HA010	E.CAPACITOR 50V 1U	1	
C33028	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33029	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C33030	ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C33031	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33032	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C33033	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C33034	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33035	ECEV0JA470	E.CAPACITOR 6.3V 47U	1	
C33036	ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C33037	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33039-41	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C33043,44	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	2	
C33045	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C33046-49	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C33054-57	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	4	
C33058,59	ECUX1H680JCV	C.CAPACITOR CH 50V 68P	2	
C33060	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	1	
C33069-71	ECUX1C104ZFV	C.CAPACITOR CH 16V 0.1U	3	
C33072	ECEV1CA100	E.CAPACITOR CH 16V 10U	1	
C33073	ECUX1H103ZFV	C.CAPACITOR CH 50V 0.01U	1	
C33074	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C33075,76	ECKF1H562KB	C.CAPACITOR 50V 5600P	2	
C33077	ECCF1H100DC	C.CAPACITOR 50V 10P	1	
C34001	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C34002	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C34003	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C34004	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C34005	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C34006	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C34007	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C34008	ECUX1H680JCV	C.CAPACITOR 50V 68P	1	
C34009	ECUX1C104ZFV	C.CAPACITOR 16V 100U	1	
C34010	ECUX1C104ZFV	C.CAPACITOR 16V 100U	1	
C34011	ECUX1C104ZFV	C.CAPACITOR 16V 100U	1	
C34012	ECUX1C104ZFV	C.CAPACITOR 16V 100U	1	
D3701	MA141K	DIODE	1	<R>
D30003	MA141K	DIODE	1	<R>
D30005	MA141WA	DIODE	1	<R>
D30006	MA141K	DIODE	1	<R>
FL30001	ELB4R057	FILTER	1	
FL30002	ELB3H016	FILTER	1	
FL33001	VLF1016A103	FILTER	1	
FL33002,03	VLF1016A101	FILTER	2	
FL33004	VLF1016A470	FILTER	1	
FL33005-08	VLF1016A103	FILTER	4	
FL33009	VLF1016A101	FILTER	1	
FL33010	VLF1016A103	FILTER	1	
FL33011	VLF1016A470	FILTER	1	
FL33012	VLF1016A103	FILTER	1	
FL33013	VLF1016A470	FILTER	1	
FL33015-18	VLF1016A470	FILTER	4	
FL33020	VLF1016A103	FILTER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
FL33021,22	VLF1016A101	FILTER	2	
FL33023	VLF1016A103	FILTER	1	
FL33024	VLF1016A101	FILTER	1	
IC3701	AN3250FAP	IC	1	<R>
IC30001	M52373AFP	IC	1	<R>
IC30002	TC4W66F	IC	1	<R>
IC33001	ST24C01CM1	IC	1	<R>
IC33002	SC371024BFU	IC	1	<R>
IC33003	MN6715	IC	1	<R>
IC33004	SC371026FU	IC	1	<R>
IC33005	L7A1368	IC	1	<R>
IC33006	MN53040VRX2	IC	1	<R>
IC33010	NN4792FBP	IC	1	<R>
IC33011	TC7S04F	IC	1	<R>
IC33012	TC7W02F	IC	1	<R>
IC33014	UPD4538BG	IC	1	<R>
IC33015	D74HC4053G	IC	1	
IC34001	UPD42280G3E2	IC	1	<R>
IC34002	UPD42280G3E2	IC	1	<R>
K33001	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
L30001	VLQ0599J680	COIL 68UH	1	
L30005	VLQ0163G150	COIL	1	
L30006	VLQ0599J680	COIL 68UH	1	
L30007	VLP0196	COIL	1	
L30008	VLQ0163J680	COIL 68UH	1	
L30009	VLQ0599J391	COIL 390UH	1	
L30010	VLQ0599J471	COIL 470UH	1	
L30011	VLQ0599J680	COIL 68UH	1	
L30014	VLQ0599J680	COIL 68UH	1	
L30015	ELJFA220KB	COIL	1	
L30016	VLQ0163J101	COIL 100UH	1	
L30017	VLQ0163J151	COIL 150UH	1	
L30018	VLP0196	COIL	1	
L33001-04	VLP0192	COIL	4	
L33005-09	VLP0196	COIL	5	
L33010	VLP0197	COIL	1	
L33011	VLP0156	COIL	1	
L33012	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
L33013	VLP0197	COIL	1	
L33014	VLP0146	COIL	1	
PP3701	VJP3126B024	CONNECTOR (MALE) 24P	1	
PP34001	VJP3126D030	CONNECTOR	1	
PS30001	VJS3042F016W	CONNECTOR (FEMALE) 16P	1	
PS30002	VJS3042F020W	CONNECTOR	1	
PS30003	VJS2961A024	CONNECTOR (FEMALE) 24P	1	
PS30004	VJS3042B006W	CONNECTOR (FEMALE) 6P	1	
PS33001	VJS2961A030	CONNECTOR (FEMALE) 30P	1	
Q3703,04	2SB1218	TRANSISTOR	2	<R>
Q3705	XN1501	TRANSISTOR	1	<R>
Q30001	2SB1218	TRANSISTOR	1	<R>
Q30002	2SA1532	TRANSISTOR	1	<R>
Q30004	2SC3930	TRANSISTOR	1	<R>
Q30005-08	2SD1819	TRANSISTOR	4	<R>
Q30009	2SC3930	TRANSISTOR	1	<R>
Q30010,11	2SD1819	TRANSISTOR	2	<R>
Q30012	2SC3930	TRANSISTOR	1	<R>
Q30013	2SA1532	TRANSISTOR	1	<R>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q30015,16	2SB1218	TRANSISTOR	2	<R>
Q30017	2SD1819	TRANSISTOR	1	<R>
Q33001	2SD1819	TRANSISTOR	1	<R>
Q33002	2SA1532	TRANSISTOR	1	<R>
Q33003-07	2SB1218	TRANSISTOR	5	<R>
QR3701	UN5213	TRANSISTOR-RESISTOR	1	<R>
QR30002-04	UN5213	TRANSISTOR-RESISTOR	3	<R>
QR30005	UN5212	TRANSISTOR-RESISTOR	1	<R>
QR30006,07	UN5213	TRANSISTOR-RESISTOR	2	<R>
QR33003	UN5213	TRANSISTOR-RESISTOR	1	<R>
QR33004,05	UN5113	TRANSISTOR-RESISTOR	2	<R>
QR33008	XN1213	TRANSISTOR-RESISTOR	1	<R>
QR33009-11	UN5113	TRANSISTOR-RESISTOR	3	<R>
R3703	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3704	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3706	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R3708	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R3709	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3710	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R3711	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R3712	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R3713	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R3714,15	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	2	
R3716	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R3717	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R3718	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3719	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R3720	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R3721	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R3722	VRE0071E122	M.RESISTOR CH 1/10W 1.2K	1	
R3723	VRE0071E152	M.RESISTOR CH 1/10W 1.5K	1	
R3724	VRE0071E391	M.RESISTOR CH 1/10W 390	1	
R30001	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R30002	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R30003	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R30004	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R30005	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R30006	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R30007	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R30008	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R30018	VRE0071E561	M.RESISTOR CH 1/10W 560	1	
R30019	ERJ3GEYJ822	M.RESISTOR CH 1/16W 8.2K	1	
R30020-22	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	3	
R30023	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R30024	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R30025	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R30026	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R30027,28	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R30029	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R30030	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R30031	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R30032	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R30033	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R30034	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R30035	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R30036,37	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	2	
R30038	ERJ3GEYJ681	M.RESISTOR CH 1/16W 680	1	
R30039	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R30040	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R30041	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R30042	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R30043	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R30044	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R30048	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R30049	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R30050	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R30052	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R30053	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R30054	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R30055	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R30056	ERJ3GEYJ824	M.RESISTOR CH 1/16W 820K	1	
R30060	ERJ3GEYK395	M.RESISTOR CH 1/16W 39M	1	
R30061	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R30062	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R30063	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R30064	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R30065	ERJ3GEYJ113	M.RESISTOR CH 1/16W 11K	1	
R30066	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R30067	ERJ3GEYJ682	M.RESISTOR CH 1/16W 6.8K	1	
R30068	ERJ3GEYJ105	M.RESISTOR CH 1/16W 1M	1	
R30069	ERJ3GEYK225	M.RESISTOR CH 1/16W 22M	1	
R30070	ERJ3GEYJ152	M.RESISTOR CH 1/16W 1.5K	1	
R30071	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R30072	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R30073	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R30074	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R30075	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R30076	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R33001-13	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	13	
R33014	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R33015-18	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
R33019	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R33020-23	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
R33024	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R33025	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R33026-34	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	9	
R33035	ERJ3GEYJ912	M.RESISTOR CH 1/16W 9.1K	1	
R33036	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R33037,38	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	2	
R33039	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R33040	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R33041	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R33042-46	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	5	
R33047	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R33048	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R33049	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R33050	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R33051-54	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	4	
R33055	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R33056	ERJ3GEYJ472	M.RESISTOR CH 1/16W 4.7K	1	
R33057,58	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	2	
R33059	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R33060	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R33061	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R33062	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R33063	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	1	
R33064	ERJ3GEYJ471	M.RESISTOR CH 1/16W 470	1	
R33065	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R33066	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R33067	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R33068	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R33069	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R33070	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R33071	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R33072	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R33073	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R33074,75	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	2	
R33076	ERJ3GEYJ332	M.RESISTOR CH 1/16W 3.3K	1	
R33077	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	1	
R33078	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R33079	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R33096	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R33109	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R33111	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R33112	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R33113	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R33114	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R33118	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R33124	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R33125	ERJ3GEYJ154	M.RESISTOR CH 1/16W 150K	1	
R33126,27	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R33129	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R33130	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R33131	ERJ3GEYJ274	M.RESISTOR CH 1/16W 270K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R33132	ERJ3GEYJ393	M.RESISTOR CH 1/16W 39K	1	
R33133	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R33134	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R33136,37	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R34001	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R34002	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R34003	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R34004	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R34005	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R34006	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R34007	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R34008	ERJ3GEYJ102	M.RESISTOR CH 1/16W 1K	1	
R34009	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R34010	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R34011	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R34012	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R34013	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R34014	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R34015	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
R34016	ERJ3GEYJ182	M.RESISTOR CH 1/16W 1.8K	1	
VR30002	EVM7JGA00B24	V.RESISTOR 20K	1	
VR30003,04	EVM7JGA00B14	V.RESISTOR 10K	2	
VR30005	EVMEGSA00B14	V.RESISTOR 10K	1	
VR30006	EVMEGSA00B53	V.RESISTOR 5K	1	
X30001	VSX0658	CRYSTAL OSCILLATOR	1	<R>
		MISCELLANEOUS		
	VXA5305	Y/C SHIELD CASE U	1	
	XTV3+6F	SCREW	3	
	VSC4097	Y/C SHIELD CASE (A)	1	
	VMZ2366	Y/C SHIELD BARRIER	1	
	VMX2372	SPACER	1	
	VLP0107	FERRITE BEADS	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP04508A	P.C.BOARD W/COMPONENT		
		FRONT JACK		
J6801	VJJ0215	RCA PIN JACK	1	
J6803	VJJ0209	S INPUT TERMINAL	1	
L6801	VLP0083	COIL	1	
P6801	VJP2760	CONNECTOR (MALE)	1	
R6801	ERDS2TJ750	C.RESISTOR 1/4W 75	1	
		MISCELLANEOUS		
	VSC2932	SHIELD COVER	1	
	VEP05202H	P.C.BOARD W/COMPONENT		
		HEAD AMP		
C501	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C502	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C503	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C504	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C505,06	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C507,08	ECUM1H182KBN	C.CAPACITOR CH 50V 1800P	2	
C509	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C510-16	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	7	
C517	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C518	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C519	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C520	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C522	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C523,24	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	2	
C525	ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C527,28	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	2	
C531,32	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	2	
C533	ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C534-36	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C551	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C553,54	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C555	ECEA0JPK221	E.CAPACITOR 6.3V 220U	1	
C556,57	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C558	ECEA0JPK470	E.CAPACITOR 6.3V 47U	1	
C559	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C560,61	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	2	
C562,63	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	2	
C564	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C565	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C566	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C567	ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C568	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C569	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C570	ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	
C572	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C573	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C574,75	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
IC501	AN3343SC	IC	1	<R>
IC551	BA7745FS	IC	1	<R>
L501	VLQ0599J680	COIL 68UH	1	
L503,04	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
L505,06	VLP0145	COIL	2	
L507,08	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
L551-53	VLQ0599J680	COIL 68UH	3	
L554	VLQ0599J6R8	COIL	1	
P501	VJS3537B014G	CONNECTOR	1	
P502	VJS3192T	CONNECTOR (FEMALE)	1	
P551	VJS3537B009G	CONNECTOR	1	
Q551	MSD601-R	TRANSISTOR	1	<R>
Q552	MSB709-R	TRANSISTOR	1	<R>
R502	ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R503	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R504	ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R505	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R506	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R507	ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R508	ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R509	ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R510	ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R511	ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R512	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R513,14	ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	2	
R515,16	ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	2	
R517	ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R518	VRE0034E100	M.RESISTOR CH 1/10W 10	1	
R519	ERJ6GEYJ823	M.RESISTOR CH 1/10W 82K	1	
R552	ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R553	ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R554	ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R557	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R558	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R559,60	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R561	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R562	ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R563	VRE0034E220	M.RESISTOR CH 1/10W 22	1	
R564	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R566	ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R567	ERJ6GEYG153	M.RESISTOR CH 1/10W 15K	1	
R568	ERJ6GEYJ270	M.RESISTOR CH 1/10W 27	1	
R569	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R570	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R571,72	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	2	
R573	ERJ6GEYJ270	M.RESISTOR CH 1/10W 27	1	
R574	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R575	VRE0034E202	M.RESISTOR CH 1/10W 2K	1	
R576	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
		MISCELLANEOUS		
	VSC3714	SHIELD COVER (UPPER)	1	
	VSC3478	SHIELD CASE (MAIN)	1	
	VSC3715	SHIELD COVER	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP06A05A	P.C.BOARD W/COMPONENT		
		MAIN		
	VEP00X63A	P.C.BOARD W/COMPONENT		ON VEP06A05A
		M. M		
	VEP02439A	P.C.BOARD W/COMPONENT		ON VEP06A05A
		SUB SERVO		
	VEP03B68A	P.C.BOARD W/COMPONENT		ON VEP06A05A
		RF AMP		
	VEP03B69A	P.C.BOARD W/COMPONENT		ON VEP06A05A
		I/O		
	VEP04506A	P.C.BOARD W/COMPONENT		ON VEP06A05A
		AUDIO 2		
	VEP04353B	P.C.BOARD W/COMPONENT		ON VEP06A05A
		FM AUDIO PACK		
	VEP04507A	P.C.BOARD W/COMPONENT		ON VEP06A05A
		AUDIO 1		
C1	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C2	ECHU1H104JB	C.CAPACITOR 50V 0.1U	1	
C401,02	ECEV1CAN4R7	E.CAPACITOR CH 16V 4.7U	2	
C405	ECHU1C682JA	P.CAPACITOR 16V 6800P	1	
C406	ECUM1H102JN	C.CAPACITOR CH 50V 1000P	1	
C407	ECHU1C223JA	P.CAPACITOR 16V 0.022U	1	
C408	ECEV1EA100	E.CAPACITOR CH 25V 10U	1	
C409	ECHU1C223JA	P.CAPACITOR 16V 0.022U	1	
C410	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C411	ECEV1CA470P	E.CAPACITOR CH 16V 47U	1	
C412	ECHU1C103JA	P.CAPACITOR 16V 0.01U	1	
C413	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C414-16	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	3	
C417	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C418	ECWV1E104JS	P.CAPACITOR 25V 0.1U	1	
C419	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C420	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C421-23	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C424	ECWV1E154JS	P.CAPACITOR 25V 0.15U	1	
C425	ECWV1E104JS	P.CAPACITOR 25V 0.1U	1	
C426	ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C427	ECUM1H102JN	C.CAPACITOR CH 50V 1000P	1	
C428	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C431	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C432	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C433	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C434	ECWV1E104JS	P.CAPACITOR 25V 0.1U	1	
C435	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C436-38	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	3	
C439	ECUM1H332KBN	C.CAPACITOR CH 50V 3300P	1	
C440	ECHU1C103JA	P.CAPACITOR 16V 0.01U	1	
C441	ECEV1CA470P	E.CAPACITOR CH 16V 47U	1	
C442	ECEV1EA4R7	E.CAPACITOR CH 25V 4.7U	1	
C443	ECHU1C223JA	P.CAPACITOR 16V 0.022U	1	
C444	ECEV1EA100	E.CAPACITOR CH 25V 10U	1	
C445	ECUM1H102JN	C.CAPACITOR CH 50V 1000P	1	
C446	ECHU1C223JA	P.CAPACITOR 16V 0.022U	1	
C447	ECHU1C682JA	P.CAPACITOR 16V 6800P	1	
C449	ECEV1HA010	E.CAPACITOR 50V 1U	1	
C450-52	ECEV1HA3R3	E.CAPACITOR CH 50V 3.3U	3	
C453,54	ECEV1CA100	E.CAPACITOR CH 16V 10U	2	
C455	ECEV1CA470P	E.CAPACITOR CH 16V 47U	1	
C456	ECEV1HA010	E.CAPACITOR 50V 1U	1	
C457	ECEV1CA220	E.CAPACITOR CH 16V 22U	1	
C458	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C459,60	ECEV0JA470	E.CAPACITOR 6.3V 47U	2	
C461,62	ECEV1HA010	E.CAPACITOR 50V 1U	2	
C463	ECWV1E124JS	P.CAPACITOR 25V 0.12U	1	
C1002	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C1003	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C1004	ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C1005,06	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	2	
C1007	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C1008	ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C1009	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C1010,11	ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	2	
C1012	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1013	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C1014	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C1015,16	ECEA0JKA470	E.CAPACITOR 6.3V 47U	2	
C2001	ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2002,03	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	2	
C2009	ECUM1H223KBN	C.CAPACITOR CH 50V 0.022U	1	
C2010	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C2011	ECUM1H392KBN	C.CAPACITOR CH 50V 3900P	1	
C2012	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C2013	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C2014	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2015	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C2016	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2017	ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C2018	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C2019	ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C2020	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2021,22	ECEA1EKN3R3	E.CAPACITOR 25V 3.3U	2	
C2023	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C2025	ECEA0JKA221	E.CAPACITOR 6.3V 220U	1	
C2026	ECKF1H392KB	C.CAPACITOR 50V 3900P	1	
C2027	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C2029	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C2030	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C2031	ECUM1H222KBN	C.CAPACITOR CH 50V 2200P	1	
C2032	ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C2034	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C2035	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2036	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C2037	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C2039,40	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C2502	ECQV1H683JM	P.CAPACITOR 50V 0.068U	1	
C2503,04	ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	2	
C2505	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2506	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C2507	ECEA1HKAR22	E.CAPACITOR 50V 0.22U	1	
C2508	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C2509	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C2510-13	ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	4	
C2514-16	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	3	
C2517	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C2518,19	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	2	
C2520	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C2521,22	ECEA1HKNR47	E.CAPACITOR 50V 0.47U	2	
C2523	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C2525	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3002	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3003	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C3005	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3006	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3009	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3010	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3011	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C3012	ECUM1H100DCN	C.CAPACITOR CH 50V 10P	1	
C3013	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3014	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3015	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3016	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3017,18	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C3019	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3020	ECUM1E104KBN	C.CAPACITOR CH 25V 0.1U	1	
C3028	ECEA0JU221	E.CAPACITOR 6.3V 220U	1	
C3029	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3030	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3031	ECEA0JU331	E.CAPACITOR 6.3V 330U	1	
C3032	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C3033	ECEA0JU102	E.CAPACITOR 6.3V 1000U	1	
C3034,35	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3036	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3037,38	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	2	
C3039,40	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3061	ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3062	ECUM1H121JCN	C.CAPACITOR CH 50V 120P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C3063	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C3064	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3065,66	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3101	ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3102	ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3103	ECUM1H151JCN	C.CAPACITOR CH 50V 150P	1	
C3104	ECUM1H391JCN	C.CAPACITOR CH 50V 390P	1	
C3105	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3106	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3107	ECUM1H101JCN	C.CAPACITOR CH 50V 100P	1	
C3108	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C3109	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3110	ECUM1H150JCN	C.CAPACITOR CH 50V 15P	1	
C3111	ECUM1H470JCN	C.CAPACITOR CH 50V 47P	1	
C3112	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3113	ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C3114	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C3115-17	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3118-20	ECUM1H390JCN	C.CAPACITOR CH 50V 39P	3	
C3121	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3122	ECUM1H331JCN	C.CAPACITOR CH 50V 330P	1	
C3123	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3124-27	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3128	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3129	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3130,31	ECUM1H120JCN	C.CAPACITOR CH 50V 12P	2	
C3133,34	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3135	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	1	
C3136	ECUM1H680JCN	C.CAPACITOR CH 50V 68P	1	
C3137	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	1	
C3138	ECUM1H181JCN	C.CAPACITOR CH 50V 180P	1	
C3139	ECUM1H820JCN	C.CAPACITOR CH 50V 82P	1	
C3141	ECUM1H120JCN	C.CAPACITOR CH 50V 12P	1	
C3142	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3505	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3506	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3508	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C3509	ECQB1H332JF	P.CAPACITOR 50V 3300P	1	
C3510	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3511	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C3512	ECQP1H562GZ	P.CAPACITOR 50V 5600P	1	
C3513	ECQB1H272JF	P.CAPACITOR 50V 0.22U	1	
C3514	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3515	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C3516	ECEA1HKA3R3	E.CAPACITOR 50V 3.3U	1	
C3601	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C3602-05	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	4	
C3606	ECUM1E104ZFN	C.CAPACITOR CH 25V 0.1U	1	
C3607-09	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	3	
C3610	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3611	ECUM1H333KBN	C.CAPACITOR CH 50V 0.033U	1	
C3612	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C3613-15	ECUM1E473KBN	C.CAPACITOR CH 25V 0.047U	3	
C3616	ECEA1EKA4R7	E.CAPACITOR 25V 4.7U	1	
C3617	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	1	
C3618	ECEA0JKN470	E.CAPACITOR 6.3V 47U	1	
C3901	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3902	ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C3903,04	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3905,06	ECEA0JKA220	E.CAPACITOR 6.3V 220U	2	
C3907,08	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3909	ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C3910,11	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C3912	ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C3913	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C3914-17	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	4	
C3918	ECEA0JKN220	E.CAPACITOR 6.3V 22U	1	
C3919	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C3920	ECEA0JKN220	E.CAPACITOR 6.3V 22U	1	
C3921	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4001	ECEA1CU221	E.CAPACITOR 16V 220U	1	
C4002	ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C4003	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4004	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C4005	ECQB1H183JF	P.CAPACITOR 50V 0.018U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C4006	ECQB1H393JF	P.CAPACITOR 50V 0.039U	1	
C4007	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4008	ECUM1H822KBN	C.CAPACITOR CH 50V 8200P	1	
C4009	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4010	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C4011	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4012	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4013	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4014	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4015	ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C4016	ECQB1H122JF	P.CAPACITOR 50V 1200P	1	
C4017	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	1	
C4018	ECSF1CE106	T.CAPACITOR 16V 10U	1	
C4019	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C4020	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4021	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4022	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4023	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4024-29	ECEA1CKA100	E.CAPACITOR 16V 10U	6	
C4030	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4031	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4032	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4033	ECQB1H823JF	P.CAPACITOR 50V 0.082U	1	
C4034	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C4501	ECEA1CU221	E.CAPACITOR 16V 220U	1	
C4502	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4503	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C4504,05	ECEA1HKA010	E.CAPACITOR 50V 1U	2	
C4506,07	ECEA1CKA101	E.CAPACITOR 16V 100U	2	
C4508	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C4509,10	ECEA1CKA101	E.CAPACITOR 16V 100U	2	
C4511	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C4512-14	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	3	
C4515,16	ECEA1CKA100	E.CAPACITOR 16V 10U	2	
C4517	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C4801	ECEA1CU471	E.CAPACITOR 16V 470U	1	
C4802,03	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C4804	ECCD2H181J	C.CAPACITOR 500V 180P	1	
C4805	ECQP1222JZ	P.CAPACITOR 100V 2200P	1	
C4806	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C4807	ECQB1H103JF	P.CAPACITOR 50V 0.01U	1	
C4808	ECEA1CKA330	E.CAPACITOR 16V 33U	1	
C4809	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C4810,11	ECEA1HKA010	E.CAPACITOR 50V 1U	2	
C4812	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C4813	ECEA1HKA010	E.CAPACITOR 50V 1U	1	
C4814	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C6002	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C6003	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C6005,06	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C6007	ECEA1HKA4R7	E.CAPACITOR 50V 4.7U	1	
C6008	ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C6009	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6010	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6011	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C6012	ECA0JM471	E.CAPACITOR 6.3V 470U	1	
C6013	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C6014,15	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6016	ECUM1H471JCN	C.CAPACITOR CH 50V 470P	1	
C6017,18	ECUM1H180JCN	C.CAPACITOR CH 50V 18P	2	
C6019,20	ECUM1H271JCN	C.CAPACITOR CH 50V 270P	2	
C6021	ECUM1H221JCN	C.CAPACITOR CH 50V 220P	1	
C6022,23	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	2	
C6024	ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C6025	ECA0JKF560	E.CAPACITOR 6.3V 56U	1	
C6026	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C6028	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C6029	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6030	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C6031	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C6033	ECEA1CGE470	E.CAPACITOR 16V 47U	1	
C6035	ECEA1AKA470	E.CAPACITOR 10V 47U	1	
C6039	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
C6041	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6042,43	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C6044	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6046	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C6048,49	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	2	
C6050	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	1	
C6051	ECEA1HKAR47	E.CAPACITOR 50V 0.47U	1	
C6052	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6053	ECEA1AGE101	E.CAPACITOR 10V 100U	1	
C6054-58	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	5	
C6129	ECUM1H102KBN	C.CAPACITOR CH 50V 1000P	1	
C6132	ECEA0JKA470	E.CAPACITOR 6.3V 47U	1	
C6136	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6905	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6907	ECUM1C224ZFN	C.CAPACITOR CH 16V 0.22U	1	
C6908	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C6910	ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6911	ECEA0JKA220	E.CAPACITOR 6.3V 220U	1	
C6912	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C6913	ECWM1H472JZ	P.CAPACITOR 50V 4700P	1	
C6914	ECWM1H333JZ	P.CAPACITOR 50V 0.033U	1	
C7901	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C7903	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C7904	ECEA1CKA470	E.CAPACITOR 16V 47U	1	
C7908	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7909	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C7910	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7911	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C7912	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7913	ECEA1HKA2R2	E.CAPACITOR 50V 2.2U	1	
C7914	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7915	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7916	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C7917	ECUM1H123KBN	C.CAPACITOR CH 50V 0.012U	1	
C7918,19	ECEA0JKA220	E.CAPACITOR 6.3V 220U	2	
C7920	ECEA0JKA101	E.CAPACITOR 6.3V 100U	1	
C7921	EECF5R5U104	E.CAPACITOR 5.5V 0.1F	1	
C7922	ECUM1H102JCN	C.CAPACITOR CH 50V 1000P	1	
C7923	ECEA1HKN4R7	E.CAPACITOR 50V 4.7U	1	
C7924	ECEA1CKA100	E.CAPACITOR 16V 10U	1	
C7925,26	ECQV1H104JZ	P.CAPACITOR 50V 0.1U	2	
D1	MA704A	DIODE	1	
D401	MA720	DIODE	1	<R>
D1002	MA4033-H	DIODE	1	
D1003	MA723VT	DIODE	1	<R>
D1004	MA165VT	DIODE	1	<R>
D1005	MA4036	DIODE	1	
D1006	MA723VT	DIODE	1	<R>
D2003	MA165VT	DIODE	1	<R>
D2005	MA151WK	DIODE	1	<R>
D2007	MA165VT	DIODE	1	<R>
D2501	11ES1	DIODE	1	<R>
D2502,03	MA185	DIODE	2	<R>
D3001,02	MA165VT	DIODE	2	<R>
D3101	MA151K	DIODE	1	<R>
D3601	MA151K	DIODE	1	<R>
D3901,02	MA151WK	DIODE	2	<R>
D4001,02	MA165VT	DIODE	2	<R>
D4004,05	MA165VT	DIODE	2	<R>
D4009-13	MA165VT	DIODE	5	<R>
D4501-04	MA165VT	DIODE	4	<R>
D4801	MA151WA	DIODE	1	<R>
D6001	MA165VT	DIODE	1	<R>
D6002	MA4120-M	DIODE	1	
D6003-07	MA165VT	DIODE	5	<R>
D6008	MA723VT	DIODE	1	<R>
D6009-11	MA165VT	DIODE	3	<R>
D6013	MA4051M	DIODE	1	<R>
D6014,15	MA165VT	DIODE	2	<R>
D6016	MA4056-L	DIODE	1	
D6017	11ES1	DIODE	1	<R>
D7901-04	MA165VT	DIODE	4	<R>
D7905	11EQS04	DIODE	1	<R>
D7906	MA4130M	DIODE	1	<R>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
D7907	MA4300M	DIODE	1	<R>
D7908-10	11EQS04	DIODE	3	<R>
D7911-13	MA165VT	DIODE	3	<R>
D7914	MA151WA	DIODE	1	<R>
D7915	MA151WK	DIODE	1	<R>
FL3001	ELB4R057	FILTER	1	
FL3101	VLF1141	FILTER	1	
FL3601	ELB4R057	FILTER	1	
FL4501	VLF0696	FILTER	1	
IC1	UPD4538BG	IC	1	<R>
IC401	BA7705K1	IC	1	<R>
IC1001	HA17431PA	IC	1	<R>
IC2003	MC14053BF	IC	1	<R>
IC2501	BA6871BS	IC	1	<R>
IC3001	AN3581S	IC	1	<R>
IC3002	TC7S66F	IC	1	<R>
IC3101	M52083FP	IC	1	<R>
IC3502	AN5421N	IC	1	<R>
IC3601	AN3250FAP	IC	1	<R>
IC3602	MC14577CF	IC	1	
IC3901,02	MC14052BF	IC	2	<R>
IC4001	LA7296	IC	1	<R>
IC4002-05	NJM4558M	IC	4	<R>
IC4006	MC14052BF	IC	1	<R>
IC4007	MC14051BF	IC	1	<R>
IC4008	NJM4558M	IC	1	<R>
IC4501	AN1358S	IC	1	<R>
IC4502	NJM4558M	IC	1	<R>
IC4503	UPC78L05J	IC	1	<R>
IC6001	MN6755320H7L	IC	1	<R>
IC6903	BA6887	IC	1	<R>
IC7901	MC14053BF	IC	1	<R>
IC7902,03	NJM4558M	IC	2	<R>
IC7904	MC74HC86F	IC	1	<R>
IC7905	M66006FP	IC	1	<R>
K3002	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K3005,06	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
L401	VLQ0163J101	COIL 100UH	1	
L403	VLQ0163J101	COIL 100UH	1	
L1001	VLP0083	COIL	1	
L2001	VLP0083	COIL	1	
L2002	VLQEL05F101K	COIL 100UH	1	
L2501	ELESE102KA	COIL 1000UH	1	
L3001,02	VLQ0599J680	COIL 68UH	2	
L3005	VLQ0599J330	COIL 33UH	1	
L3006,07	VLQ0599J680	COIL 68UH	2	
L3101	VLQ0599J151	COIL 150UH	1	
L3102	VLQ0599J3R9	COIL 3.9UH	1	
L3103	VLQ0599J4R7	COIL 4.7UH	1	
L3104	VLQ0599J151	COIL 150UH	1	
L3105	VLQ0599J5R6	COIL 5.6UH	1	
L3106	VLQ0599J180	COIL 18UH	1	
L3107	VLQ0599J220	COIL 22UH	1	
L3108	VLQ0599J181	COIL 180UH	1	
L3109	VLQ0599J100	COIL 10UH	1	
L3110	VLQ0599J390	COIL 39UH	1	
L3111	VLQ0599J680	COIL 68UH	1	
L3112	VLQ0599J390	COIL 39UH	1	
L3113	VLQ0599J221	COIL 220UH	1	
L3114	VLQ0599J680	COIL 68UH	1	
L3115	VLQ0599J390	COIL 39UH	1	
L3116	VLQ0599J330	COIL 33UH	1	
L3117	VLQ0599J820	COIL 82UH	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
L3118	VLQ0599J221	COIL 220UH	1	
L3119	VLQ0599J271	COIL 270UH	1	
L3120	VLQ0599J270	COIL 27UH	1	
L3122	VLQ0599J151	COIL 150UH	1	
L3123	VLQ0599J150	COIL 15UH	1	
L3125	VLQ0599J100	COIL 10UH	1	
L3501,02	VLQ0599J680	COIL 68UH	2	
L3601	VLQ0599J680	COIL 68UH	1	
L3901-03	VLQ0599J680	COIL 68UH	3	
L3904,05	VLP0152	COIL	2	
L4001	VLQEL07F101K	COIL 100UH	1	
L4002	VLQEL07R153	COIL	1	
L4003	VLQ0123	COIL	1	
L4004	VLQEL05S561J	COIL 560UH	1	
L4501	VLQEL07F101K	COIL 100UH	1	
L4801	VLQ0599J471	COIL 470UH	1	
L6002	VLP0074	COIL	1	
L6003	VLQEL05K221K	COIL 220UH	1	
L6004,05	VLQ0599J680	COIL 68UH	2	
L6006	VLP0083	COIL	1	
L6910	ELESE101KA	COIL 100UH	1	
L7901	VLQ0599J010	COIL 1UH	1	
L7904	VLQ0599J680	COIL 68UH	1	
L7905	VLQ0599J010	COIL 1UH	1	
L7907	VLQ0599J680	COIL 68UH	1	
P2001	VJP3529	CONNECTOR	1	
P2002	VJP2981A003	CONNECTOR	1	
P2501	VJS3537A015G	CONNECTOR	1	
P2502	VJP3502	CONNECTOR	1	
P3001	VJS3537A014G	CONNECTOR	1	
P3002	VJP3529	CONNECTOR	1	
P3101	VJS3043F015W	CONNECTOR	1	
P3501	VJS3043B012W	CONNECTOR (FEMALE) 12P	1	
P3901	VJP3092	CONNECTOR (MALE)	1	
P4001-03	VJS3186B018	CONNECTOR (FEMALE) 18P	3	
P4501-03	VJS3186B018	CONNECTOR (FEMALE) 18P	3	
P4801-06	VJP3186A018W	CONNECTOR	6	
P4807	VJP3529	CONNECTOR	1	
P4808	VJP3043A012W	CONNECTOR (MALE) 12P	1	
P4809	VJP3529	CONNECTOR	1	
P4810	VJS2331	CONNECTOR (FEMALE)	1	
P4811	VJP1230T	CONNECTOR (MALE) 3P	1	
P4812	VJS3537A009G	CONNECTOR	1	
P4813	VJP3079	CONNECTOR (MALE)	1	
P6001	VJS3537A014G	CONNECTOR	1	
P6002	VJP1242T	CONNECTOR (MALE) 2P	1	
P6004	VJP3080	CONNECTOR (MALE)	1	
P6901	VJP1230T	CONNECTOR (MALE) 3P	1	
P7901	VJP3093	CONNECTOR (MALE)	1	
P7902	VJS3537F016G	CONNECTOR	1	
P7903	VJS3537F018G	CONNECTOR	1	
PP2503,04	VJP3042A010W	CONNECTOR (MALE) 10P	2	
PP3001	VJP3042A016W	CONNECTOR (MALE) 16P	1	
PP3002	VJP3042G020W	CONNECTOR	1	
PP3003	VJP3043A006W	CONNECTOR (MALE) 6P	1	
PP3004	VJP3043A007W	CONNECTOR (MALE) 7P	1	
PP3005	VJP3043A013W	CONNECTOR (MALE) 13P	1	
PP3006	VJP3043G015W	CONNECTOR	1	
PP3007	VJP3043A012W	CONNECTOR (MALE) 12P	1	
PP3008	VJP3042A006W	CONNECTOR (MALE) 6P	1	
PS2503,04	VJS3042B010W	CONNECTOR (FEMALE) 10P	2	
PS3901	VJS3043B012W	CONNECTOR (FEMALE) 12P	1	
PS3902	VJS3043B013W	CONNECTOR (FEMALE) 13P	1	
PS3903	VJS3043B006W	CONNECTOR (FEMALE) 6P	1	
PS3904	VJS3043B007W	CONNECTOR (FEMALE) 7P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q401,02	2SD1328-R	TRANSISTOR	2	<R>
Q1001	2SD1330-S	TRANSISTOR	1	<R>
Q1002	2SD973-R	TRANSISTOR	1	<!><R>
Q1003	2SD1330	TRANSISTOR	1	<R>
Q1004,05	2SD1330-S	TRANSISTOR	2	<R>
Q3001	MSB709-R	TRANSISTOR	1	<R>
Q3002	MSC2295-B	TRANSISTOR	1	<R>
Q3003	MSD601-R	TRANSISTOR	1	<R>
Q3004	MSB709-R	TRANSISTOR	1	<R>
Q3005,06	MSD601-R	TRANSISTOR	2	<R>
Q3101	MSC2295-B	TRANSISTOR	1	<R>
Q3102	MSD601-R	TRANSISTOR	1	<R>
Q3103,04	MSC2295-B	TRANSISTOR	2	<R>
Q3502	MSC2295-B	TRANSISTOR	1	<R>
Q3503	2SA1022-B	TRANSISTOR	1	<R>
Q3504	MSB709-R	TRANSISTOR	1	<R>
Q3601	MSB709-R	TRANSISTOR	1	<R>
Q3602	MSD601-R	TRANSISTOR	1	<R>
Q3603	MSB709-R	TRANSISTOR	1	<R>
Q3901-03	MSB709-R	TRANSISTOR	3	<R>
Q4001	MSD1328-R	TRANSISTOR	1	<R>
Q4501,02	MSD1328-R	TRANSISTOR	2	<R>
Q4503	2SB710A-R	TRANSISTOR	1	<R>
Q4504	MSB709-R	TRANSISTOR	1	<R>
Q4505	MSD601-R	TRANSISTOR	1	<R>
Q4801	MSD1328-R	TRANSISTOR	1	<R>
Q4802,03	MSD601-R	TRANSISTOR	2	<R>
Q4804	2SD639-R	TRANSISTOR	1	<R>
Q4805	MSD601-R	TRANSISTOR	1	<R>
Q4806	MSB709-R	TRANSISTOR	1	<R>
Q4807	2SB790-R	TRANSISTOR	1	<R>
Q6001	2SB643-R	TRANSISTOR	1	<R>
Q6002	2SD1330-R	TRANSISTOR	1	<R>
Q6003	MSD601-R	TRANSISTOR	1	<R>
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Q6005	MSB709-R	TRANSISTOR	1	<R>
Q6006	2SD637	TRANSISTOR	1	<R>
Q6007,08	2SD1330-R	TRANSISTOR	2	<R>
Q6010	2SD1330-R	TRANSISTOR	1	<R>
Q6011	2SD1330-S	TRANSISTOR	1	<R>
Q6901	2SA1309	TRANSISTOR	1	<R>
Q6902	2SC3311	TRANSISTOR	1	<R>
Q7901	2SD1328-R	TRANSISTOR	1	<R>
Q7902,03	2SD1330-S	TRANSISTOR	2	<R>
Q7904	2SD1328-R	TRANSISTOR	1	<R>
Q7905	MSB709-R	TRANSISTOR	1	<R>
Q7906	2SD601-R	TRANSISTOR	1	<R>
Q7907	2SD1330-S	TRANSISTOR	1	<R>
Q7908	MSB709-R	TRANSISTOR	1	<R>
QR401	UN2113	TRANSISTOR-RESISTOR	1	<R>
QR403	UN2213	TRANSISTOR-RESISTOR	1	<R>
QR404	UN2113	TRANSISTOR-RESISTOR	1	<R>
QR1001	UN2215	TRANSISTOR-RESISTOR	1	<R>
QR2001	XN1213	TRANSISTOR-RESISTOR	1	<R>
QR2002	MUN2213	TRANSISTOR	1	<R>
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QR3001	MUN2113	TRANSISTOR	1	<R>
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QR3011,12	MUN2113	TRANSISTOR	2	<R>
QR3013,14	MUN2213	TRANSISTOR	2	<R>
QR3101	XN1213	TRANSISTOR-RESISTOR	1	<R>
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QR3103-05	XN1213	TRANSISTOR-RESISTOR	3	<R>
QR3501	MUN2213	TRANSISTOR	1	<R>
QR3901	XN1213	TRANSISTOR-RESISTOR	1	<R>
QR3902,03	XN5501	TRANSISTOR	2	<R>
QR3904-06	MUN2213	TRANSISTOR	3	<R>
QR3907	XN1213	TRANSISTOR-RESISTOR	1	<R>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
QR4001	UN2215	TRANSISTOR-RESISTOR	1	<R>
QR4002	MUN2213	TRANSISTOR	1	<R>
QR4003,04	MUN2211	TRANSISTOR	2	<R>
QR4005	MUN2113	TRANSISTOR	1	<R>
QR4006	MUN2213	TRANSISTOR	1	<R>
QR4007	MUN2113	TRANSISTOR	1	<R>
QR4008,09	MUN2213	TRANSISTOR	2	<R>
QR4010	UN2115	TRANSISTOR-RESISTOR	1	<R>
QR4011	MUN2211	TRANSISTOR	1	<R>
QR4012,13	MUN2213	TRANSISTOR	2	<R>
QR4501	MUN2213	TRANSISTOR	1	<R>
QR4502	MUN2113	TRANSISTOR	1	<R>
QR4503	UN2216	TRANSISTOR-RESISTOR	1	<R>
QR4801	MUN2211	TRANSISTOR	1	<R>
QR4802	MUN2212	TRANSISTOR	1	<R>
QR4803	MUN2211	TRANSISTOR	1	<R>
QR4804-06	MUN2213	TRANSISTOR	3	<R>
QR6006	MUN2213	TRANSISTOR	1	<R>
QR6007,08	MUN2212	TRANSISTOR	2	<R>
QR6009	MUN2113	TRANSISTOR	1	<R>
QR6011	MUN2212	TRANSISTOR	1	<R>
QR6022	UN2116	TRANSISTOR-RESISTOR	1	<R>
QR6025	MUN2213	TRANSISTOR	1	<R>
QR6026	MUN2212	TRANSISTOR	1	<R>
QR6901	MUN2213	TRANSISTOR	1	<R>
QR6902	XN1211	TRANSISTOR-RESISTOR	1	<R>
QR7901,02	MUN2113	TRANSISTOR	2	<R>
QR7903-07	MUN2211	TRANSISTOR	5	<R>
QR7908	MUN2213	TRANSISTOR	1	<R>
QR7909	XN1214	TRANSISTOR	1	<R>
QR7910	MUN2213	TRANSISTOR	1	<R>
QR7913,14	MUN2212	TRANSISTOR	2	<R>
QR7915	MUN2113	TRANSISTOR	1	<R>
QR7917-19	MUN2211	TRANSISTOR	3	<R>
QR7920	MUN2213	TRANSISTOR	1	<R>
QR7921	MUN2113	TRANSISTOR	1	<R>
QR7922-25	MUN2213	TRANSISTOR	4	<R>
R1	ERJ6GEYJ274	M.RESISTOR CH 1/10W 270K	1	
R403,04	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	2	
R406	ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1	
R407	ERJ6GEYJ112	M.RESISTOR CH 1/10W 1.1K	1	
R408	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R409	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
R410	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R411	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R412	ERJ6GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R413	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R414	ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R415	ERJ6GEYG163	M.RESISTOR CH 1/10W 16K	1	
R416	ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R417	ERJ6GEYJ113	M.RESISTOR CH 1/10W 11K	1	
R418	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R420	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R421	ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R422	ERJ6GEYJ303	M.RESISTOR CH 1/16W 30K	1	
R423	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R424	ERJ6GEYG562	M.RESISTOR CH 1/10W 5.6K	1	
R425	ERJ6GEYG183	M.RESISTOR CH 1/10W 18K	1	
R426	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R427	ERJ6GEYJ112	M.RESISTOR CH 1/10W 1.1K	1	
R428	ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1	
R429	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R431	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R433	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R434	ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R435	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R436	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R437	ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R438	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R439	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R440	ERJ6GEYJ225	M.RESISTOR CH 1/10W 2.2M	1	
R441	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R442,43	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	2	
R1001	VRE0034E272	M.RESISTOR CH 1/10W 2.7K	1	
R1002,03	VRE0034E512	M.RESISTOR CH 1/10W 5.1K	2	
R1004	ERDS1TJ151	C.RESISTOR 1/2W 150	1	
R1005	ERDS2TJ472	C.RESISTOR 1/4W 4.7K	1	
R1006,07	ERDS2TJ680	C.RESISTOR 1/4W 68	2	
R2001	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2002	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R2003	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R2005	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R2007	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R2011	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R2012	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R2013,14	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R2015	ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R2017	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R2018,19	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R2021	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R2023	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2024	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R2025	ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R2026	ERJ6GEYJ244	M.RESISTOR CH 1/10W 240K	1	
R2501	ERJ6GEYJ684	M.RESISTOR CH 1/10W 680K	1	
R2502	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R2503	ERJ6GEYG133	M.RESISTOR CH 1/10W 13K	1	
R2504	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R2505	ERJ6GEYG473	M.RESISTOR CH 1/10W 47K	1	
R2506	ERJ6GEYG432	M.RESISTOR CH 1/10W 4.3K	1	
R2507	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R2508	ERDS1TJ561	C.RESISTOR 1/2W 560	1	
R2509-11	ERDS2TJ560	C.RESISTOR 1/4W 56	3	
R2512	ERX12SJR47	M.RESISTOR 1/2W 0.47	1	
R2513	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R2514	ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1	
R2516	ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R2517	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R2518	ERJ6GEYG821	M.RESISTOR CH 1/10W 820	1	
R2519	ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R2520	ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R2521	ERJ6GEYJ105	M.RESISTOR CH 1/10W 1M	1	
R2524	ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R3001	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3002	ERJ6GEYG112	M.RESISTOR CH 1/10W 1.1K	1	
R3004	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3005	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3006,07	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R3008	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3009	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3010	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3011	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3012	ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3013	ERJ6GEYG153	M.RESISTOR CH 1/10W 15K	1	
R3016,17	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R3018	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3019	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3020	ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R3021	ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3022	ERJ6GEYG102	M.RESISTOR CH 1/10W 1K	1	
R3023	ERJ6GEYG911	M.RESISTOR CH 1/10W 910	1	
R3024	ERJ6GEYG561	M.RESISTOR CH 1/10W 560	1	
R3025	ERJ6GEYG112	M.RESISTOR CH 1/10W 1.1K	1	
R3026	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3027	ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R3029	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3030,31	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R3032	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R3033,34	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3035	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3036	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3037	ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R3043	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R3044	ERJ6GEYJ474	M.RESISTOR CH 1/10W 470K	1	
R3045	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3046	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3047	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3048	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3049	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3050	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3051	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3052-54	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R3101	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3102	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3103	ERJ6GEYG621	M.RESISTOR CH 1/10W 620	1	
R3104	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3105	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3106	ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	1	
R3107	ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3108	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R3109	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3110	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3111	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3112	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R3113	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3114	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3115	ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3116	ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R3117,18	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3119	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3120	VRE0034E472	M.RESISTOR CH 1/10W 4.7K	1	
R3122	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3123	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3124	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3125	ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3127	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3128	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3129	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3130	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R3131	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3132	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R3133	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3134,35	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R3136	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3137	ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R3138	ERJ6GEYG621	M.RESISTOR CH 1/10W 620	1	
R3139	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R3140,41	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R3142	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3145	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	1	
R3147,48	ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	2	
R3505	ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R3506	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3507	ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	1	
R3508,09	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3510	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R3511	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3512-14	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	3	
R3515	ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R3516	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3517	ERJ6GEYJ393	M.RESISTOR CH 1/10W 39K	1	
R3518	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3519	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3520	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3521	ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3601,02	ERJ6GEYJ391	M.RESISTOR CH 1/10W 390	2	
R3603,04	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R3605	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	1	
R3606	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R3607	ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R3608,09	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R3610	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R3611	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3612	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3613	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3614	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3615	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R3616,17	ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	2	
R3901,02	ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	2	
R3903-06	ERJ6GEYJ681	M.RESISTOR CH 1/10W 680	4	
R3907	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R3909	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R3910,11	ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	2	
R3912	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3913-15	ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	3	
R3916	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3918	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3919	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	1	
R3921	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3922	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	1	
R3923	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R3924	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3925	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	1	
R3926,27	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R3928	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3929	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3930	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3931,32	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R3933	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R3934	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R3935	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3936	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3937,38	ERJ6GEYJ750	M.RESISTOR CH 1/10W 75	2	
R3939-47	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	9	
R3948-50	ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	3	
R3953	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R3954	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R3955,56	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4001	VRE0034E123	M.RESISTOR CH 1/10W 12K	1	
R4002	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4003	ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	1	
R4004	ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R4005	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R4006	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4007	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4008	ERJ6GEYG202	M.RESISTOR CH 1/10W 2K	1	
R4009	ERJ6GEYG681	M.RESISTOR CH 1/10W 680	1	
R4010,11	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4012	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4013	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4014	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4015	ERJ6GEYJ561	M.RESISTOR CH 1/10W 560	1	
R4016	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4017	ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R4018	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4019,20	ERJ6GEYJ121	M.RESISTOR CH 1/10W 120	2	
R4021	ERJ6GEYJ334	M.RESISTOR CH 1/10W 330K	1	
R4022	ERJ6GEYG682	M.REISITOR CH 1/10W 6.8K	1	
R4023	ERJ6GEYG243	M.RESISTOR CH 1/10W 24K	1	
R4024	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4025	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R4026	ERJ6GEYG153	M.RESISTOR CH 1/10W 15K	1	
R4027	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4028,29	ERJ6GFYJ104	M.RESISTOR CH 1/10W 100K	2	
R4030	ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R4031	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R4032	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4033	ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R4034	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R4035	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4036	ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R4037	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R4038	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4039	ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R4040	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R4041	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4042	ERJ6GEYJ243	M.RESISTOR CH 1/10W 24K	1	
R4043	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R4044	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4045,46	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R4047,48	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R4049	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4050	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4051,52	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4053,54	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R4055,56	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R4057-59	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R4060	ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4061	ERDS2TJ103	C.RESISTOR 1/4W 10K	1	
R4501,02	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4503,04	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4505	ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R4506	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4507	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4508	ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R4509	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R4510	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4511	ERJ6GEYJ563	M.RESISTOR CH 1/10W 56K	1	
R4512	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R4513	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4514,15	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R4516	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4517,18	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R4519	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4520	ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R4521	ERJ6GEYJ182	M.RESISTOR CH 1/10W 1.8K	1	
R4522	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R4523	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R4524	ERJ6GEYG103	M.RESISTOR CH 1/10W 10K	1	
R4525	ERJ6GEYG332	M.RESISTOR CH 1/10W 3.3K	1	
R4526	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4527,28	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4529	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R4530	ERJ6GEYJ330	M.RESISTOR CH 1/10W 33	1	
R4531	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4801	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4802	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R4803	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R4804,05	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R4806	ERJ6GEYJ100	M.RESISTOR CH 1/10W 10	1	
R4807	ERJ6GEYG153	M.RESISTOR CH 1/10W 15K	1	
R4808	ERJ6GEYJ123	M.RESISTOR CH 1/10W 12K	1	
R4809	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R4810,11	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	2	
R4812,13	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R4814	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R4815	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R4816,17	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	2	
R6001	ERDS1TJ472	C.RESISTOR 1/2W 4.7K	1	
R6006-08	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R6011	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6012	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6016,17	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6018	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6019	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6020,21	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	2	
R6022	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6023	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6024	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	1	
R6025	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6026	ERJ6GEYJ273	M.RESISTOR CH 1/10W 27K	1	
R6027	ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R6028	ERJ6GEYJ183	M.RESISTOR CH 1/10W 18K	1	
R6031	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6032	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6033-35	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	3	
R6036-40	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	5	
R6041	ERJ6GEYG201	M.RESISTOR CH 1/10W 200	1	
R6042	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6043,44	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	2	
R6045	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6046	ERDS2TJ102	C.RESISTOR 1/4W 1K	1	
R6047	ERJ6GEYJ271	M.RESISTOR CH 1/10W 270	1	
R6048,49	ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	2	
R6050	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6051,52	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6053,54	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6055,56	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	2	
R6058,59	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6060	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6061	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6062	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R6063,64	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6066	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6067	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	1	
R6068,69	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6072	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6076	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6077,78	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	2	
R6079	ERJ6GEYJ470	M.RESISTOR CH 1/10W 47	1	
R6080,81	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	2	
R6082	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6083	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6084	ERJ6GEYJ222	M.RESISTOR CH 1/10W 2.2K	1	
R6086	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6087	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6088	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R6089	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6091-93	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	3	
R6094	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6096	ERDS2TJ152	C.RESISTOR 1/4W 1.5K	1	
R6103	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6104	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	1	
R6105	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6108	ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R6109	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6110	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	1	
R6113	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6115	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6116	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
R6117	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
R6131	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6137	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6901	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R6902	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6914	ERJ6GEYG333	M.RESISTOR CH 1/10W 33K	1	
R6915	ERJ6GEYJ913	M.RESISTOR CH 1/10W 91K	1	
R6916	ERJ6GEYG512	M.RESISTOR CH 1/10W 5.1K	1	
R6917,18	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	2	
R6919	ERX1SJ1R8	M.RESISTOR 1W 1.8	1	
R6920	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6921	VRE0034E122	M.RESISTOR CH 1/10W 1.2K	1	
R6922	VRE0034E96A	M.RESISTOR CH 1/10W 0.96	1	
R6923	VRE0034E751	M.RESISTOR CH 1/10W 750	1	
R7901-07	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	7	
R7908	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7909	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7910,11	ERJ6GEYJ151	M.RESISTOR CH 1/10W 150	2	
R7912	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7913,14	ERJ6GEYJ331	M.RESISTOR CH 1/10W 330	2	
R7915	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7916	ERDS1TJ152	C.RESISTOR 1/2W 1.5K	1	
R7917	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R7918	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R7919	ERJ6GEYJ562	M.RESISTOR CH 1/10W 5.6K	1	
R7920-31	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	12	
R7932-34	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	3	
R7935,36	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	2	
R7937,38	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	2	
R7939-43	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	5	
R7944,45	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	2	
R7946	ERJ6GEYJ223	M.RESISTOR CH 1/10W 22K	1	
SW7901	VSS0112	SWITCH	1	<R>
T4801	EIQ7QF013Q	TRANSFORMER	1	
T6901	EIQ7QF012Q	TRANSFORMER	1	
VR401	EVM7JGA30B24	V.RESISTOR 20K	1	
VR402	EVM7JGA00B14	V.RESISTOR 10K	1	
VR403	EVM7JGA30B54	V.RESISTOR 50K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
VR405	EVM7JGA00B14	V.RESISTOR 10K	1	
VR406	EVM7JGA30B54	V.RESISTOR 50K	1	
VR407	EVM7JGA30B24	V.RESISTOR 20K	1	
VR2001	EVMF6SA00B54	V.RESISTOR 50K	1	
VR2018,19	EVMF6SA00B54	V.RESISTOR 50K	2	
VR3001	EVMF6SA00B14	V.RESISTOR 10K	1	
VR3002	EVMF6SA00B24	V.RESISTOR 20K	1	
VR3003	EVMF6SA00B23	V.RESISTOR 2K	1	
VR3006,07	EVMF6SA00B23	V.RESISTOR 2K	2	
VR3101	EVMEASA00B54	V.RESISTOR 50K	1	
VR3503	EVMEASA00B23	V.RESISTOR 2K	1	
VR3601	EVMEGSA00B23	V.RESISTOR 2K	1	
VR4801	EVMF6SA00B14	V.RESISTOR 10K	1	
VR4802	EVMF6SA00B25	V.RESISTOR 200K	1	
VR4803,04	EVMF6SA00B13	V.RESISTOR 1K	2	
X6001	VSX0583	CRYSTAL OSCILLATOR	1	<R>
X7901	VSQ0824	CRYSTAL OSCILLATOR	1	<R>
		MISCELLANEOUS		
	VJH0820	ANTENNA TERMINAL	1	
	VMP4684	TUNER EARTH ANGLE	1	
	XTV3+10G	SCREW	4	
	XSB3+6FZ	SCREW	1	
	VMA6768	EARTH ANGLE	2	
	ENG46106G	TUNER	1	<!>
	VJF1158	CLAMPER	5	
	VMG0400	RUBBER	2	
	VEJ1537	JACK PANEL	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP06A06A	P.C.BOARD W/COMPONENT		
		FRONT VR		
	VEP00V50A	P.C.BOARD W/COMPONENT		ON VEP06A06A
		HP/MIC		
C6751,52	ECKF1H152KB	C.CAPACITOR 50V 1500P	2	
C6870	ECQM1H124JM	P.CAPACITOR 50V 0.24U	1	
C6871	ECKF1H103ZF	C.CAPACITOR 50V 0.01U	1	
C6872	ECQM1H124JM	P.CAPACITOR 50V 0.24U	1	
C6874	ECEA1CKS330	E.CAPACITOR 16V 33U	1	
C6875	ECEA1EKS3R3	E.CAPACITOR 25V 3.3U	1	
C6876	VCEA1HAC3R3	E.CAPACITOR 50V 3.3U	1	
C6877	ECEA1AKS330	E.CAPACITOR 10V 33U	1	
D6851,52	MA165VT	DIODE	2	<R>
IC6870	VCR0172	IC	1	<R>
J6751	VJJ0238	HEAD PHONE JACK	1	
J6752	VJJ0210	HEAD PHONE JACK	1	
LD6851	LN81RCPHLULS	DIODE	1	
P6851	VJP1246T	CONNECTOR (MALE) 6P	1	
P6852	VJP3093	CONNECTOR (MALE)	1	
P6853	VJS2357A015	CONNECTOR (FEMALE) 15P	1	
P6870	VJP3091	CONNECTOR (MALE)	1	
R6851,52	ERDS2TJ332	C.RESISTOR 1/4W 3.3K	2	
R6853	ERDS2TJ271	C.RESISTOR 1/4W 270	1	
R6870	ERDS2TJ222	C.RESISTOR 1/4W 2.2K	1	
R6873,74	ERDS2T0	C.RESISTOR 1/4W 0	2	
R6876	ERDS2T0	C.RESISTOR 1/4W 0	1	
R6878	ERDS2T0	C.RESISTOR 1/4W 0	1	
SW6851	EVQ11407K	SWITCH	1	<R>
SW6852,53	ESD172212	SWITCH	2	<R>
SW6855	VSP0881	SWITCH	1	<R>
SW6856	ESD172312	SWITCH	1	<R>
VR6870	EWAKFKXB3B24	V.RESISTOR 20K	1	
VR6871	EWAKABXB3C23	V.RESISTOR 2K	1	
VR6872	EWANYJX0554J	V.RESISTOR	1	
		MISCELLANEOUS		
	KL-04	LED HOLDER	1	
	VGU4495	REC VR KNOB	2	
	VJF0691	JACK HOLDER	1	
	VYC0160	REC VR PANEL	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
	VEP07800A	P.C.BOARD W/COMPONENT		
		TIMER		
C6501	ECEA1HKA100	E.CAPACITOR 50V 10U	1	
C6502	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6503	ECEA0JKS330	E.CAPACITOR 6.3V 33U	1	
C6504	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6505	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6506,07	ECEA1EKS4R7	E.CAPACITOR 25V 4.7U	2	
C6508,09	ECQB1H473JF	P.CAPACITOR 50V 0.047U	2	
C6510	ECEA0JK221	E.CAPACITOR 6.3V 220U	1	
C6511	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6512	ECUM1H090DCN	C.CAPACITOR CH 50V 90P	1	
C6513	ECRHA030E41	TRIMMER 3P	1	
C6514	ECUM1H330JCN	C.CAPACITOR CH 50V 33P	1	
C6515	ECUM1H220JCN	C.CAPACITOR CH 50V 22P	1	
C6516,17	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	2	
C6518	ECUM1H560JCN	C.CAPACITOR CH 50V 56P	1	
C6520	ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C6521	ECUM1H104ZFN	C.CAPACITOR CH 50V 0.1U	1	
C6522	ECEA0JKS470	E.CAPACITOR 6.3V 47U	1	
C6524	ECEA1CKA101	E.CAPACITOR 16V 100U	1	
C6525	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6526	ECA0JM221	E.CAPACITOR 6.3V 220U	1	
C6527	ECUM1H223ZFN	C.CAPACITOR CH 50V 0.022U	1	
C6528	ECEA1VKA100	E.CAPACITOR 35V 10U	1	
C6529	ECEA1CKA220	E.CAPACITOR 16V 22U	1	
C6530-47	ECUM1H270JCN	C.CAPACITOR CH 50V 27P	18	
C6548	ECUM1H103ZFN	C.CAPACITOR CH 50V 0.01U	1	
C6549	ECUM1H103KBN	C.CAPACITOR CH 50V 0.01U	1	
D6501	MA4068M	DIODE	1	<R>
D6502	MA151A	DIODE	1	<R>
D6504	ERA22-02V5	DIODE	1	
D6505,06	MA185	DIODE	2	<R>
D6507	MA4091L	DIODE	1	<R>
D6509-28	MA151A	DIODE	20	<R>
D6529	MA151WA	DIODE	1	<R>
D6531	MA151WA	DIODE	1	<R>
DP6501	VSL0347	DISPLAY	1	
IC6502	BA6810S	IC	1	<R>
IC6503	MN187324VMFH	IC	1	
IC6504	M6M80011AP	IC	1	<R>
IC6505	VEK6408	IC	1	
IC6506	MN1382K	IC	1	<R>
IC6507	MN1382-S	IC	1	<R>
L6501	ELESQ221KA	COIL 220UH	1	
L6502,03	VLQ0599J101	COIL 100UH	2	
L6504	VLP0083	COIL	1	
LD6501-05	LN28RCPL	DIODE	5	
LD6506	LN48YCPL	DIODE	1	
LD6507	VLL0062	LED	1	
P6501	VJS2357A020	CONNECTOR (FEMALE) 20P	1	
P6502	VJS3537F016G	CONNECTOR	1	
P6503	VJS3537F018G	CONNECTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
P6504	VJP1233T	CONNECTOR (MALE) 6P	1	
P6505	VJP2621	CONNECTOR (MALE)	1	
Q6501	2SD973B-R	TRANSISTOR	1	<R>
QR6501,02	MUN2112	TRANSISTOR	2	<R>
QR6503	MUN2111	TRANSISTOR	1	<R>
QR6504	MUN2213	TRANSISTOR	1	<R>
QR6505-08	MUN2113	TRANSISTOR	4	<R>
QR6509-11	MUN2111	TRANSISTOR	3	<R>
R6501	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	1	
R6505-08	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	4	
R6510,11	ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	2	
R6520	ERJ6GEYJ821	M.RESISTOR CH 1/10W 820	1	
R6521	ERJ6GEYJ152	M.RESISTOR CH 1/10W 1.5K	1	
R6522	ERJ6GEYG223	M.RESISTOR CH 1/10W 22K	1	
R6523	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6524-26	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	3	
R6527	ERJ6GEYJ272	M.RESISTOR CH 1/10W 2.7K	1	
R6528	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6529	ERJ6GEYJ122	M.RESISTOR CH 1/10W 1.2K	1	
R6530	ERJ6GEYJ224	M.RESISTOR CH 1/10W 220K	1	
R6531,32	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R6533	ERJ6GEYJ221	M.RESISTOR CH 1/10W 220	1	
R6534	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6535-38	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	4	
R6539,40	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R6541	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6542	ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R6544	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6545	ERDS1TJ3R9	C.RESISTOR 1/2W 3.9	1	
R6546	ERJ6GEYJ101	M.RESISTOR CH 1/10W 100	1	
R6547	ERJ6GEYJ102	M.RESISTOR CH 1/10W 1K	1	
R6548-52	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	5	
R6553	ERJ6GEYJ392	M.RESISTOR CH 1/10W 3.9K	1	
R6554,55	ERJ6GEYJ822	M.RESISTOR CH 1/10W 8.2K	2	
R6556,57	ERJ6GEYJ471	M.RESISTOR CH 1/10W 470	2	
R6558-64	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	7	
R6565-68	ERJ6GEYJ181	M.RESISTOR CH 1/10W 180	4	
R6569	ERJ6GEYJ390	M.RESISTOR CH 1/10W 39	1	
R6570-73	ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	4	
R6575-77	ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	3	
R6578-82	ERJ6GEYJ473	M.RESISTOR CH 1/10W 47K	5	
R6586	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6589	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	1	
R6592	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	1	
R6593-95	ERJ6GEYJ103	M.RESISTOR CH 1/10W 10K	3	
R6596,97	ERJ6GEYG472	M.RESISTOR CH 1/10W 4.7K	2	
R6598	ERJ6GEYJ682	M.RESISTOR CH 1/10W 6.8K	1	
R6600,01	ERJ6GEYJ332	M.RESISTOR CH 1/10W 3.3K	2	
R6602	ERJ6GEYJ683	M.RESISTOR CH 1/10W 68K	1	
R6610,11	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	2	
R6620-36	ERJ6GEYJ104	M.RESISTOR CH 1/10W 100K	17	
T6501	ETE13K91AY	TRANSFORMER	1	
VR6501	EVNDXAA00B53	V.RESISTOR	1	
X6501	VSX0797	CRYSTAL OSCILLATOR	1	<R>
X6502	VSX0094	CRYSTAL OSCILLATOR	1	<R>

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
		MISCELLANEOUS		
	VJF0693	FIP HOLDER	1	
	VJF0740	LED SPACER	1	
	VMD1342	SPACER	1	
	VEP00T87A	P.C.BOARD W/COMPONENT		
		MECHA CONNECTION		
D1501	LN59L.VT	DIODE	1	<R>
IC1501,02	ON1387	PHOTO INTERRUPTER	2	<R>
P1503	VJS3316A002	CONNECTOR (FEMALE) 2P	1	
P1504	VJS3820	CONNECTOR	1	
P1505	VJS3537B014G	CONNECTOR	1	
Q1501	PT493F1MN	TRANSISTOR	1	<R>
Q1502	PN205L-NC.VT	TRANSISTOR	1	<R>
SW1501	VES0695	SAFETY SWITCH	1	<R>
SW1502	VST0176	SWITCH	1	<R>
		MISCELLANEOUS		
	VJB00T87	MECHA CONNECTION C.B.A.	1	
	VMD2029	GUIDE PIECE	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks

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ORDER NO. VSD9402M632

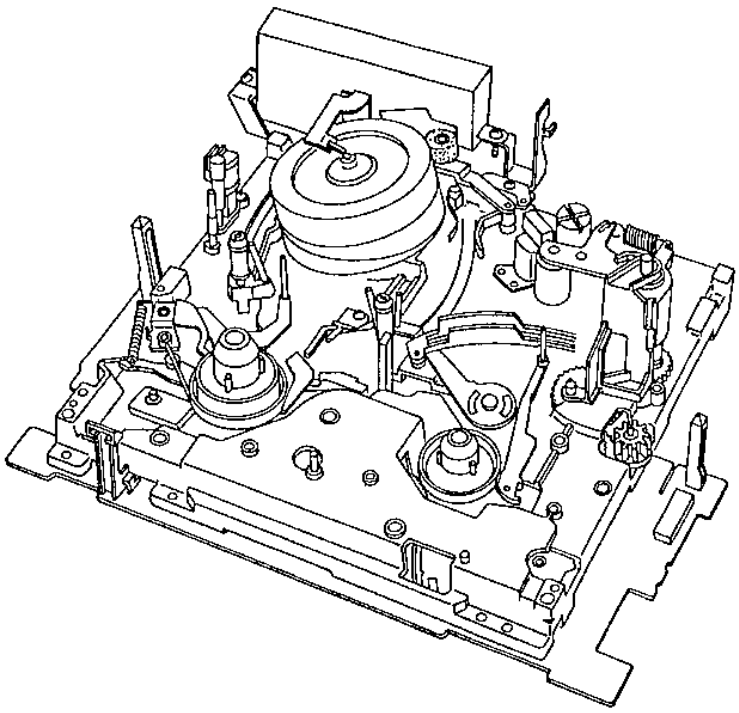
Service Manual

Video Cassette Recorder

VHS
PAL

Sec. 1 *General Information*
Sec. 2 *Maintenance Procedures*
Sec. 3 *Mechanical Adjustment Procedur*
Sec. 4 *Assembly & Phase Adjustment Procedure*

K-MECHANISM



IMPORTANT

The **K-MECHANISM** chassis are built in several Panasonic SVHS／VHS Video Cassette Recorder.

Thus, Properly file this service manual with the service manual of the relative video cassette recorder.

Panasonic

INTRODUCTION

This Service Manual contains the technical information which service personnel to understand and service the K-Mechanism.
The Maintenance Chart, Mechanical Parts List and Mechanical Specification, please refer to the service manual of each model.

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SECTION 1
GENERAL INFORMATION

The K mechanism maintains the same high performance as G2 mechanism but with a smaller quantity of mounted parts, 40% less than G2 mechanism.

1-1. FEATURE of K MECHANISM

1-1-1. Parts Reduction

<K Mechanism>

a. Reduction in the number of drive parts through the use of a single motor to perform front loading and unit loading.
b. Direct drive of brakes and loading gears with the multi-function main lever.
c. Elimination of sub lever and solenoids.

<Front Loading Unit>

a. Elimination of a slide switch, to reduce wiring.
b. Elimination or combining the joint parts.
c. Smaller and thinner the top plate and rack parts.

1-1-2. No Adjustment of the following is required.

a. Take-up inclined position.
b. P5 Post height.

1-1-3. Reduced Gear Phase Position Alignments

The K Mechanism has only 6 gear phase alignment positions and G2 mechanism has 12 gear phase alignment positions.

1-2. OPERATION of K-MECHANISM

The K mechanism has two motors, the loading motor and capstan motor. The loading motor operates the front loading/unloading and tape loading/unloading. The capstan motor operates each mode.
The bottom C.B.A. connects the mechanism to the system control circuit. On the bottom C.B.A. there are take-up and supply photo-sensors, Sensor LED, Mode Switch Connector, Safety Tab Switch, Supply and Take-up Reel Sensors and Loading Motor Connector. All sensor information sent to the system control circuit.

1-3. EMERGENCY CASSETTE REMOVAL

If the electrical circuit is defective and the action of unloading and front unloading do not work properly, it is possible to removing cassette manually.
There are 2 methods of removing the cassette.

A. Battery Operation

1. Remove the bottom plate.
2. Connect the battery (Manganese-Type (AA)(R6) 3pcs./+4.5V) to P1503 as shown in Fig.G1.
3. After moving the loading post to the unloaded position, disconnect the battery to stop the loading motor.
4. Turn the capstan rotor clockwise to take up the tape.
5. Reconnect the battery to eject the cassette.

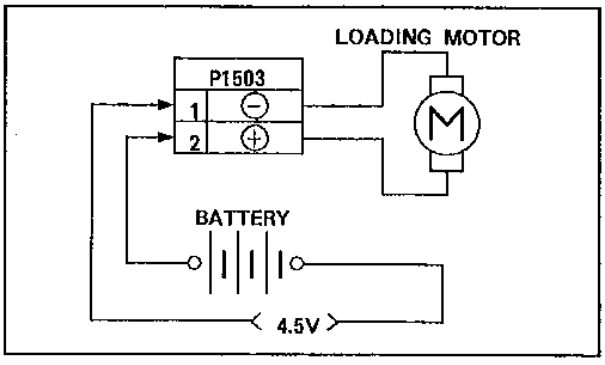


Fig.G1

B. Hand Operation

1. Remove the bottom plate.
2. Turn the worm gear to arrow mark direction (A) by finger as shown in Fig.G2 until loading post move to unloading position.
3. Turn the capstan rotor clockwise (B) to take up the tape.
4. Turn the worm gear again to eject the cassette.

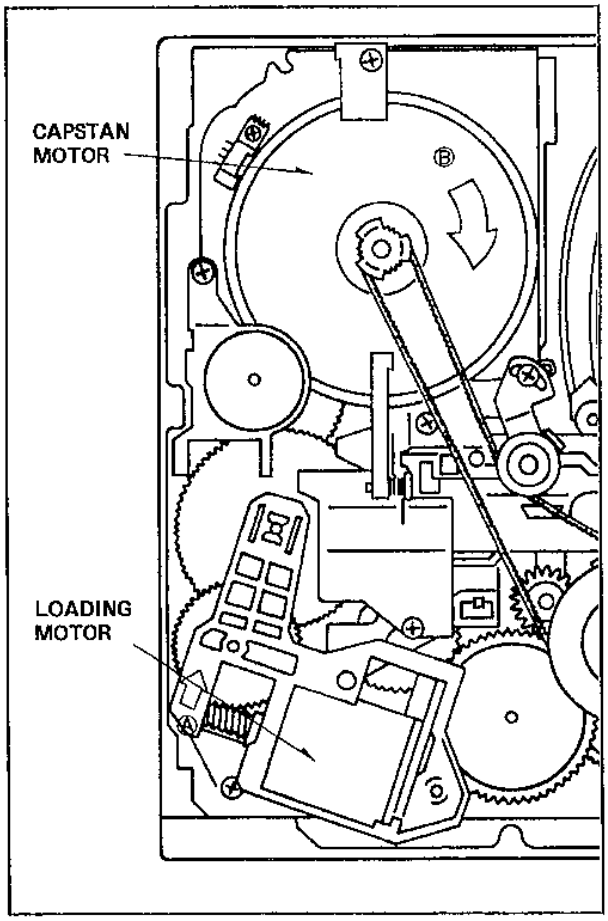


Fig.G2

1-4. EJECT OPERATION

The main cam gear rotates in the direction of the arrow. The projection (B) of the carriage connection gear engages with the recession (A) of the main cam gear. The carriage connection gear rotates in the direction of the arrow to perform the Eject operation.

If the Eject operation is performed without the cassette installed while repairing or making the mechanical phase alignment, the main cam gear will not rotate. For performing the Eject operation with the cassette carriage not installed, it is necessary to rotate the carriage connection gear by hand in the direction of the arrow.

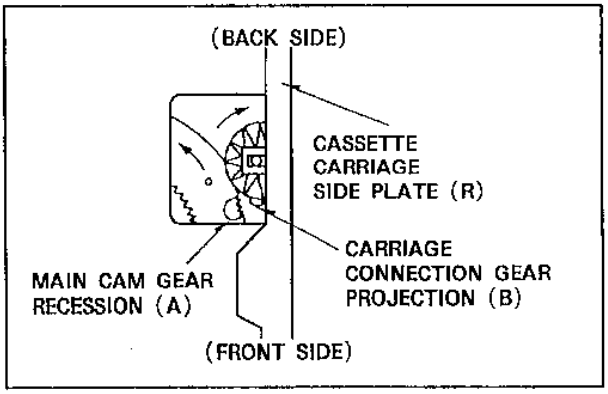


Fig.G3

1-5. REMOVAL of MECHANISM

1-5-1. Removal of Top Plate

1. Unscrew 2 screws (A) and unlock 4 locking tabs to arrow direction as shown in Fig.G4.
2. Lift up the Top Plate.

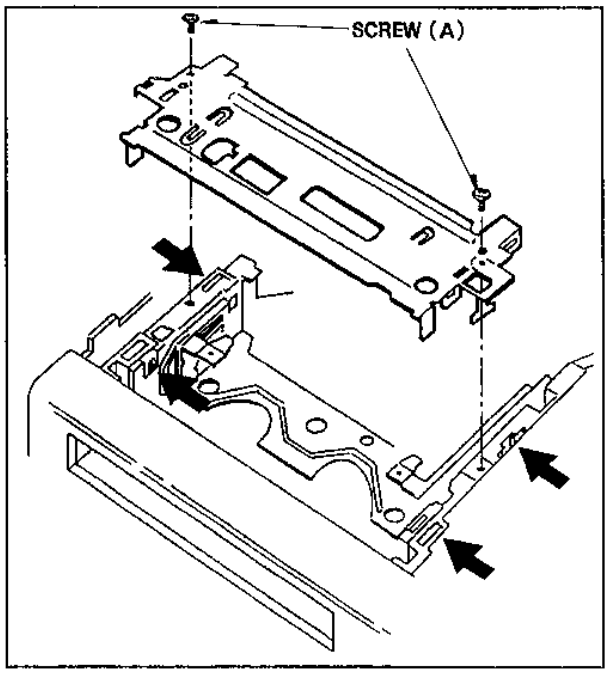


Fig.G4

1-5-2. Removal of Mechanism Chassis

1. Unscrew 2 screws (A) push the Holder Plate slightly to rear of the mechanism.
2. Unscrew a screw (B).
3. Disconnect all cable and connectors on the mechanism chassis.
   1)FE Head connector
   2)A/C Head connector
   3)Power Transistor connector
   4)Head Amp connector
   5)Capstan cable
4. Disconnect a Dew Sensor connector on the MAIN C.B.A.
5. Lift the mechanism chassis slightly and disconnect a connector of Cylinder Motor and a cable of Mechanism Connection C.B.A.
   Then mechanism chassis out of the unit.

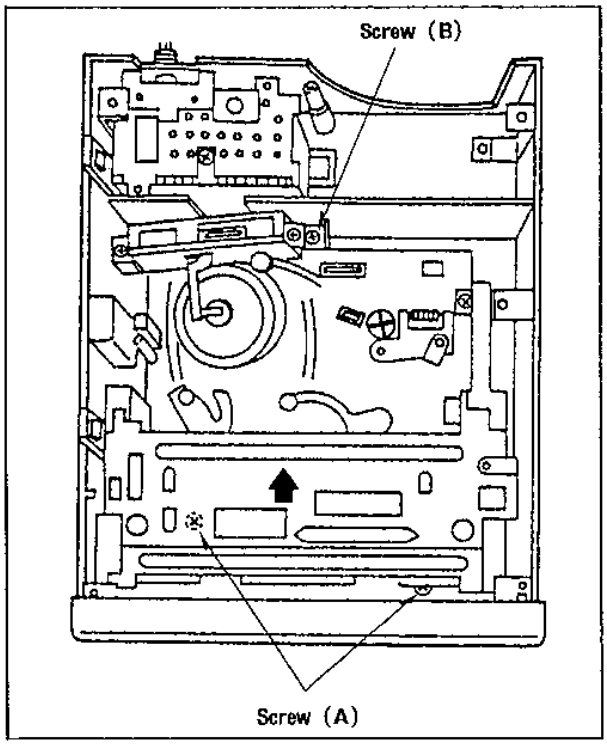


Fig.G5

1-5-3. Removal of Mechanism Connection C.B.A.

1. Unscrew 4 screws (C).
2. Lift up the Mechanism Connection C.B.A.

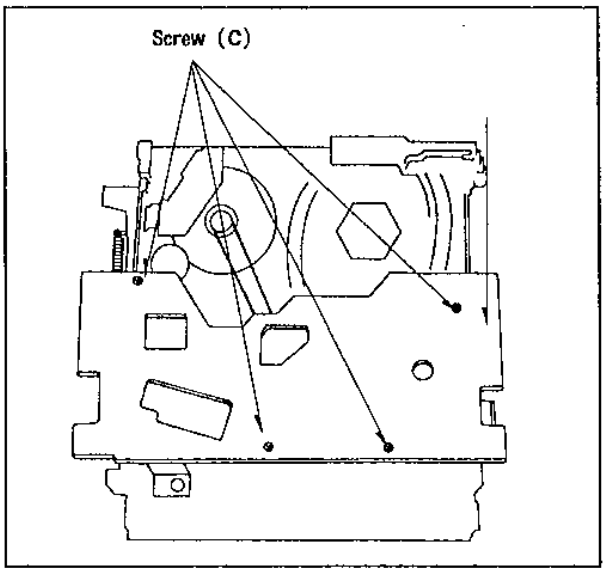
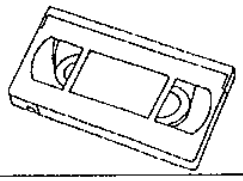
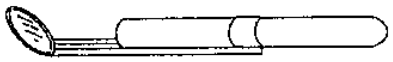
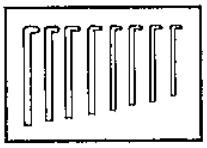
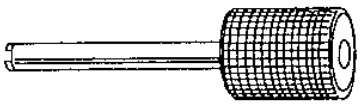
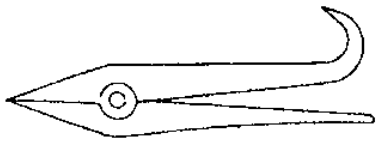
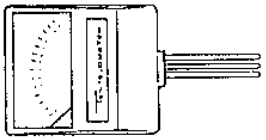
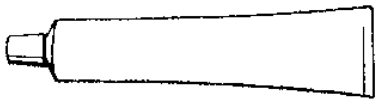
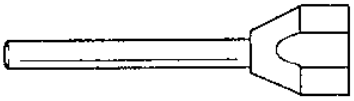
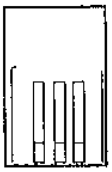
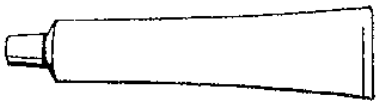
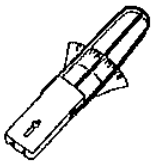


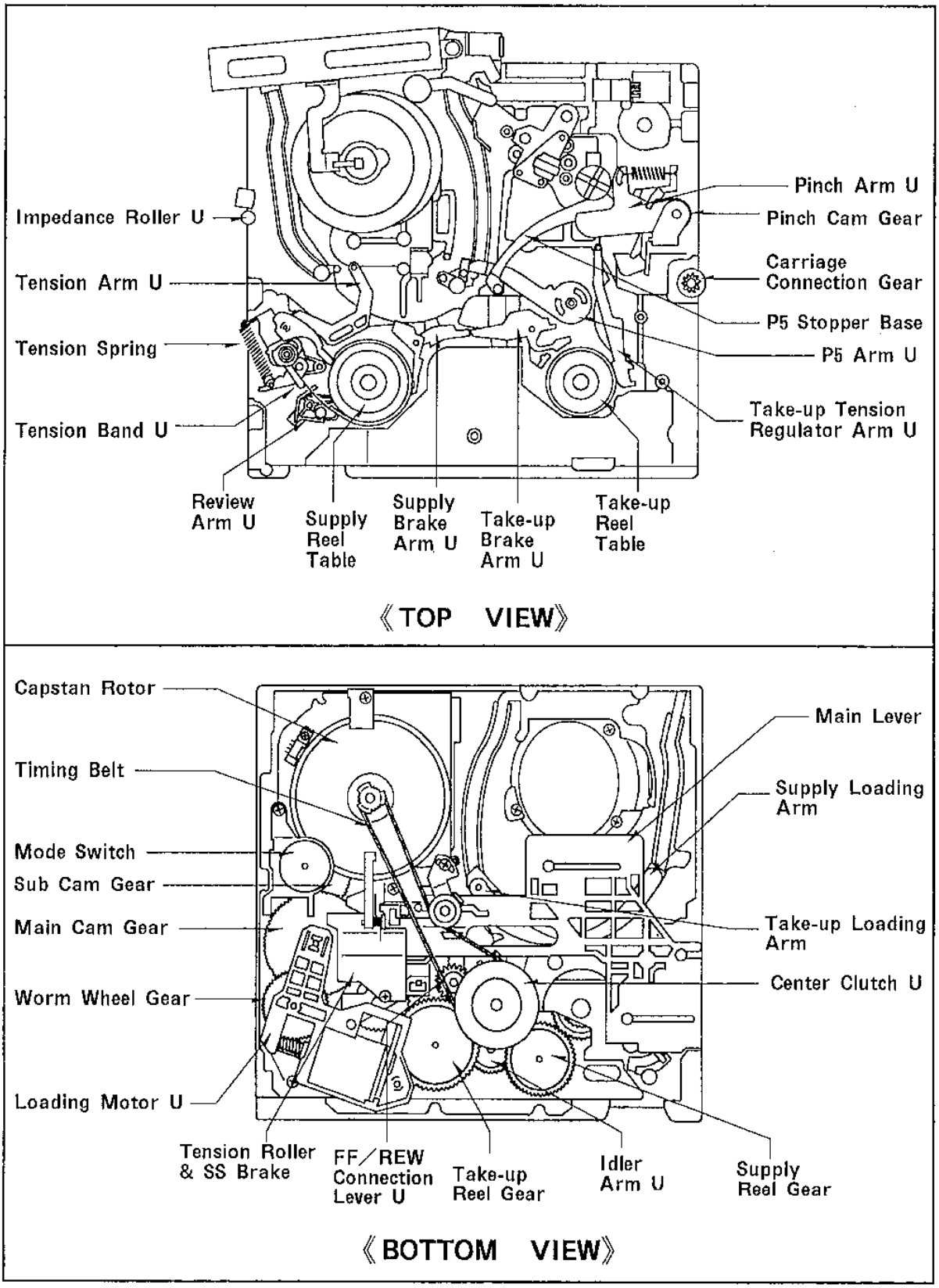
Fig.G6

1-6. SERVICE FIXTURES AND TOOLS

The regular maintenance is important to maintain the initial specification of the unit and prevent tape damage. The specified servicing fixture must be used to conduct adjustment.
The following fixtures, tools and measuring equipments are required to conduct complete Mechanical Adjustments.

VFM8080HQFP: VHS Alignment Tape 	VFK0948: Check Light 	VFK0326: Hex Wrench Set (0.7, 0.9, 1.2, 1.5, 1.6, 2.0, 2.4, 3.0mm) 
VFK0329: Post Adj. Screwdriver 	VFK0335: Retaining Ring Remover 	VFK0132: Back Tension Meter (Tentelometer,Made in U.S.A.) 
MOR265: Morlytone Grease (Black) (for metal parts) 	VFK0851: Center Fixing Tool 	VFK27: Head Cleaning Stick 
VFK0680: S.C.R. Grease (White) (for plastic parts) 	VFK66 ; Fan Type Tension Gauge 	VFK0330: Fine Adj. Screwdriver

1-7. Mechanical Parts Location



SECTION 2
MAINTENANCE PROCEDURE

The MAINTENANCE CHART please refer to the Maintenance Section which are shown in service manual for each model.

2-1. Replacement of the Upper Cylinder Unit

1. Unscrew 2 screws (A).
2. Unsolder arrows marked portions on the top of the Upper Cylinder as shown in Fig.M1.
3. Remove the Upper Cylinder.
4. The Upper Cylinder can be reinstalled by reversing the removal procedure.
   However, when insert the Upper Cylinder be extremely carefully so that marked portion of P.C.board of the Upper Cylinder correctly matches to mark of the Lower Cylinder as shown in Fig.M2.

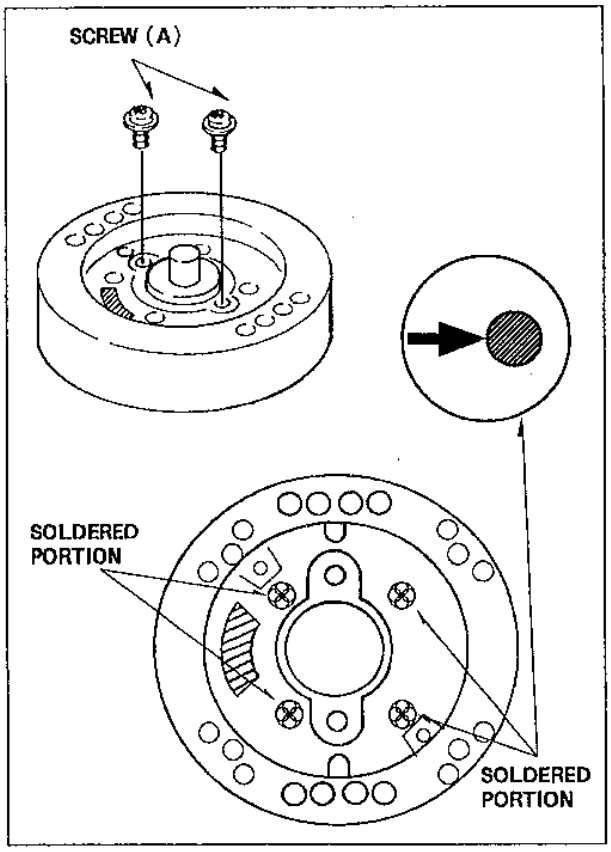


Fig.M1

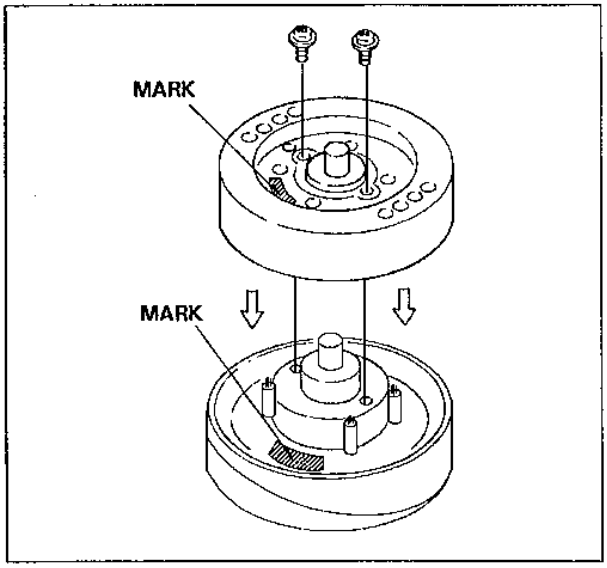


Fig.M2

<NOTE>
After reinstall the Upper Cylinder Unit should be perform Mechanical and Electrical adjustments.
3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-6. HORIZONTAL POSITION ADJUSTMENT

2-2. Replacement of Cylinder Unit

1. Remove the Earth Plate.
2. Unscrew 2 screws both side of Head Amp Unit and lift up the Head AMP.
3. Unscrew 3 screws (B) from back side of the mechanical chassis then remove the Cylinder Unit.
4. The Cylinder Unit can be reinstalled by reversing the removal procedure.

<Note>
After reinstall the Cylinder Unit should be perform Mechanical and Electrical adjustments.
3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-6. HORIZONTAL POSITION ADJUSTMENT

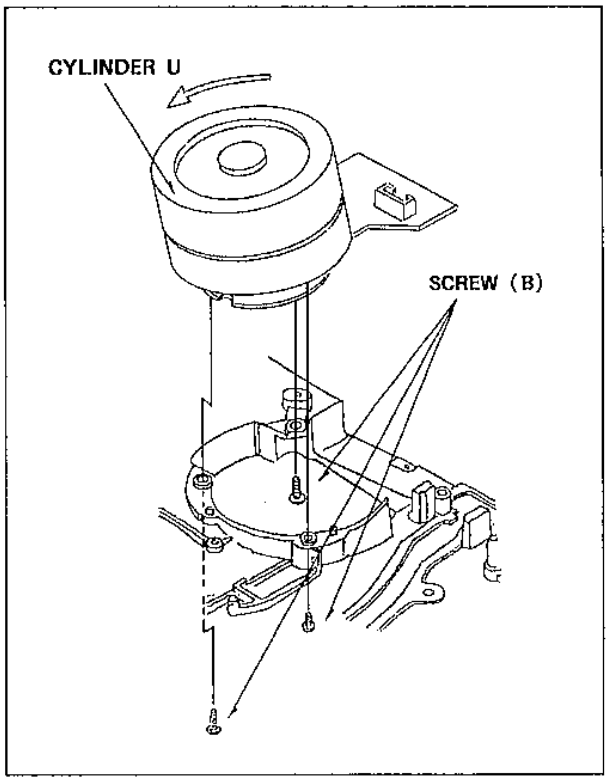


Fig.M3

2-3. Replacement of A/C HEAD Unit

1. Unscrew 3 screws (C)(D)(E) with the 3 springs then remove the A/C Head unit from the A/C Head Base.
2. The A/C Head Unit can be reinstalled by reversing the removal procedure.

<Note>
A space should be equality between the A/C Head U and the A/C Head Base when reinstall the A/C Head unit.

After reinstall the A/C Head Unit should be perform Mechanical and Electrical adjustments.
3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-3. COARSE ADJUSTMENT of A/C HEAD HEIGHT(1)
3-4. COARSE ADJUSTMENT of A/C HEAD HEIGHT(2)
3-5. FINE ADJUSTMENT of A/C HEAD HEIGHT
3-6. HORIZONTAL POSITION ADJUSTMENT

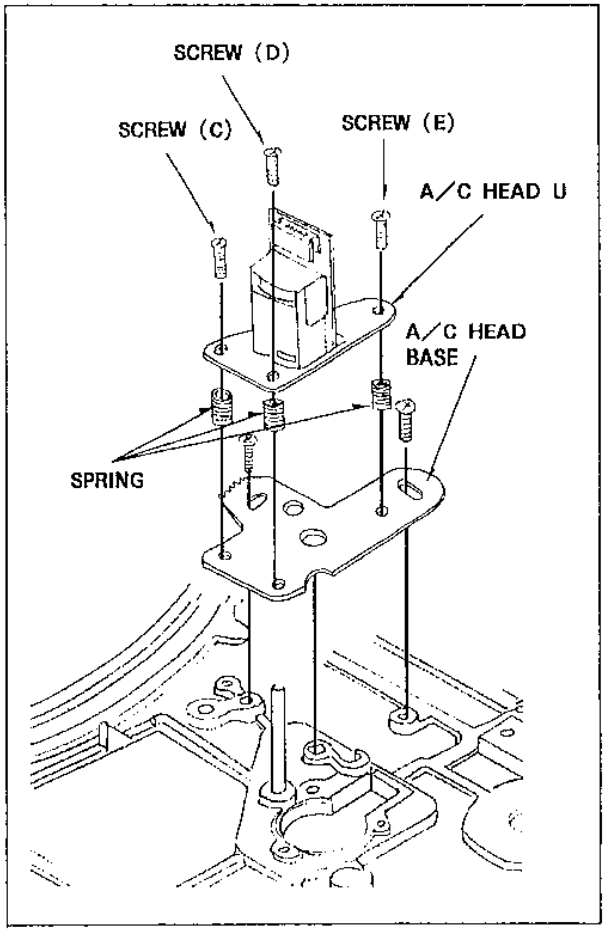


Fig.M4

2-4. Replacement of Full Erase Head Unit

1. Disconnect a connector (A).
2. Unscrew screw (F) then remove the FE Head.
3. FE Head Unit put into hole on the mechanical chassis and can be reinstalled by reversing the removal procedure.

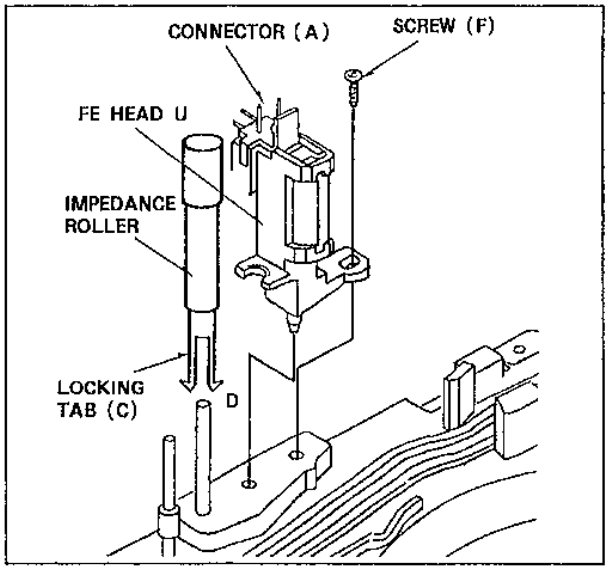


Fig.M5

2-5. Replacement of Capstan Rotor Unit and Stator Unit

1. Remove the Rotor Stopper.
2. Carefully lift up the Capstan Rotor from the Capstan Housing, taking care so as not loose the 2 Oil Seals.
3. Unscrew 3 screws (G) and remove the Capstan Stator Unit as shown in Fig.M6.
4. The Capstan Rotor and Stator can be reinstalled by reversing the removal procedure.

<Note>
After reinstall the Capstan Rotor and Stator Units should be perform Mechanical adjustment.
3-9. ADJUSTMENT of CAPSTAN HOUSING & STATOR
3-10. ADJUSTMENT of THRUST GAP
3-11. ADJUSTMENT of FG GAP

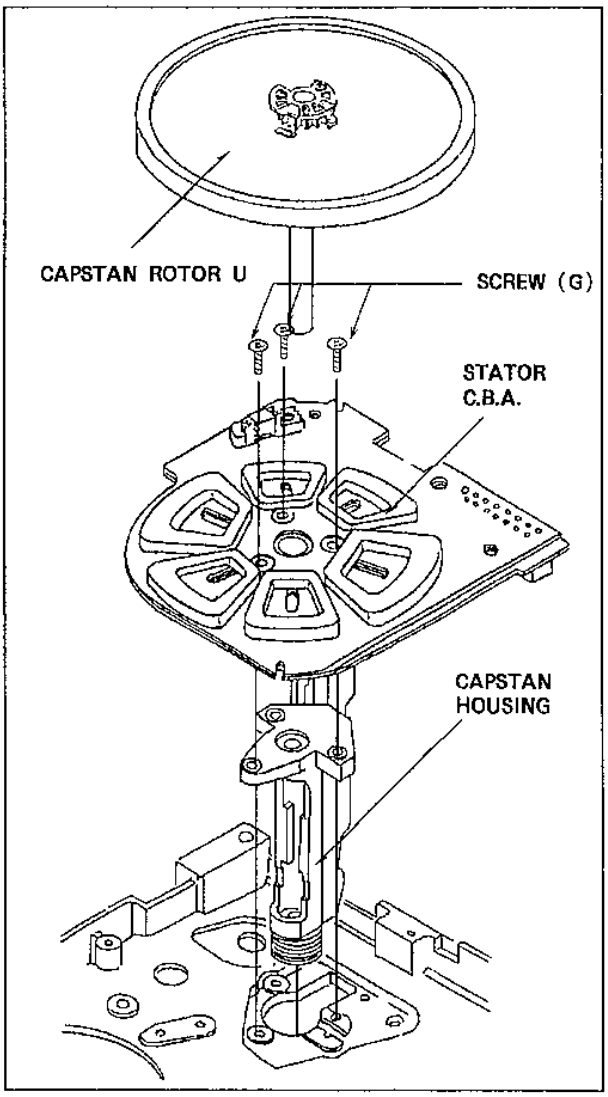


Fig.M6

2-6. Replacement of Impedance Roller Unit

1. Remove the Full Erase Head Unit with removal procedure(2-4).
2. Unlock then locking tab to direction of arrow mark as shown in Fig.M5 and remove the Impedance Roller Unit.
3. The Impedance Roller Unit can be reinstalled by reversing the removal procedure.

2-7. Replacement of Pinch Arm Unit

1. Unlock the locking tab on the Opener Piece and remove it from the shaft.
2. Remove the Pinch Arm Unit from the shaft.
3. The Pinch Arm Unit can be reinstalled by reversing the removal procedure.

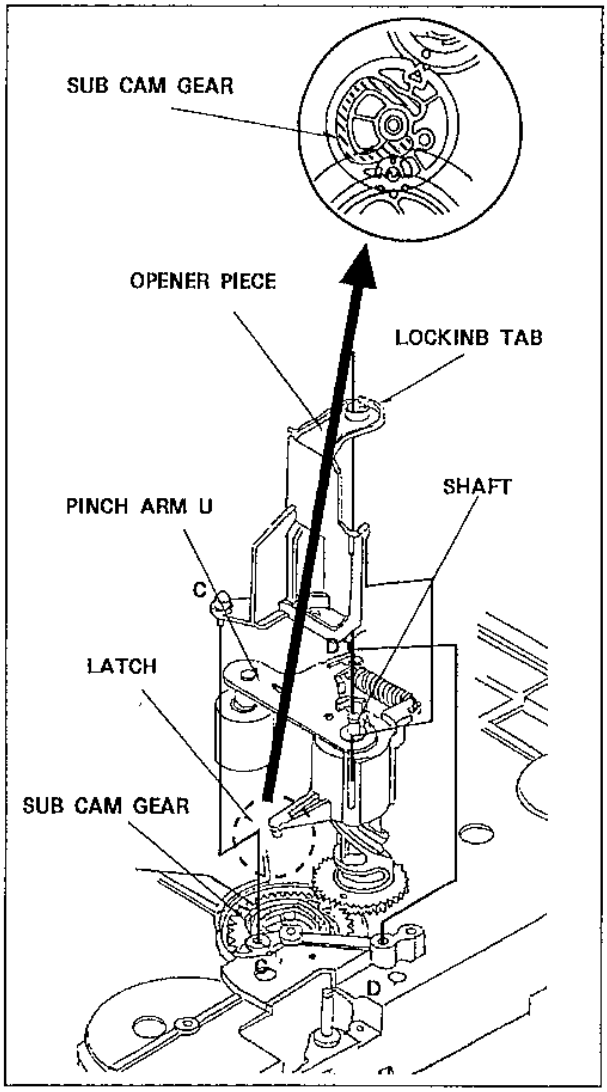


Fig.M7

2-8. Replacement of Take-up and Supply Reel Base Units

A. Supply Reel Base Unit

1. Remove the Tension Band Unit on the Supply Reel Base Unit.
2. Push the Supply main Brake Arm to direction of arrow mark and unlock the locking tab on the Supply Reel Base then pull up the Supply Reel Base Unit as shown in Fig.M8.
3. The Supply Reel Base Unit can be reinstalled by reversing the removal procedure.

B. Take-up Reel Base Unit

1. Push the Take-up Main Brake Arm to direction of arrow mark and unlock the locking tab on the top of Take-up Reel Base then pull out the Supply Reel Base Unit as shown in Fig.M8.

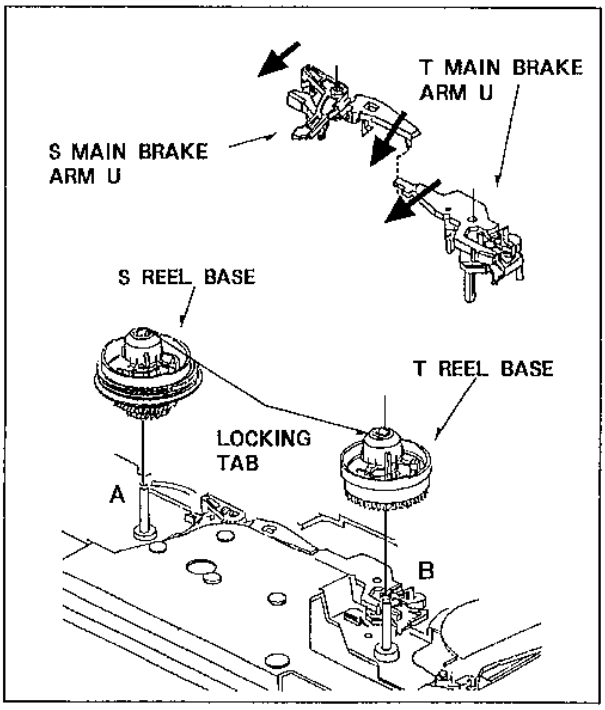


Fig.M8

2-9. Replacement of Take-up and Supply Brake Arm Unit.

1. Unlock the locking tab (A) to direction of arrow mark and lift up the Supply Brake Arm Unit.
2. Unlock the locking tab (B) and lift up the Take-up Brake Arm Unit.
3. Both Brake Arm Units can be reinstalled by reversing the removal procedure.
   However the boss (C) of the Supply Brake Arm Unit insert to hole (E) of mechanical chassis while pushing the Main Lever to direction of arrow mark as shown in Fig.M9. (expanded view)

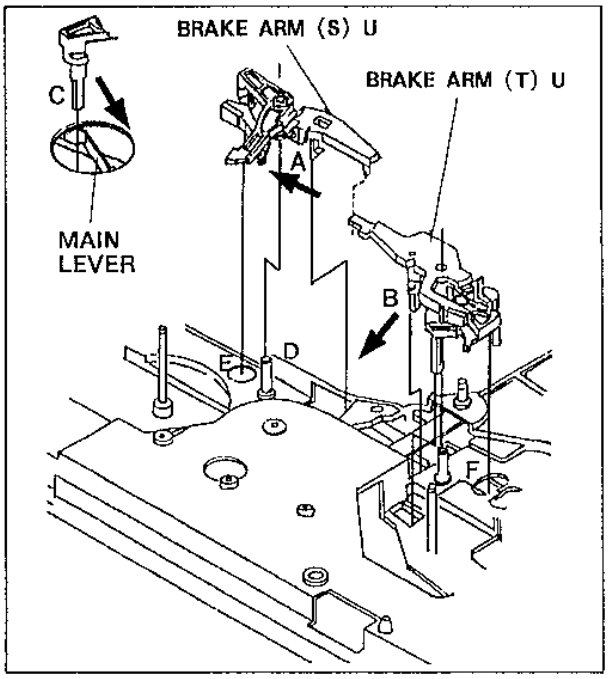


Fig.M9

2-10. Replacement of Tension Band Unit

1. Remove the cut washer (H) and lift up the Tension Arm Unit with the Tension Band and spring from the Tension Spring Arm.
2. Unlock the locking tab (A) to direction of arrow mark and remove the Tension Band from the Arm Unit.
3. Unlock the locking tab (B) and remove the Tension Band from the Tension Arm Unit.
4. The Tension Band Unit can be reinstalled by reversing the removal procedure.

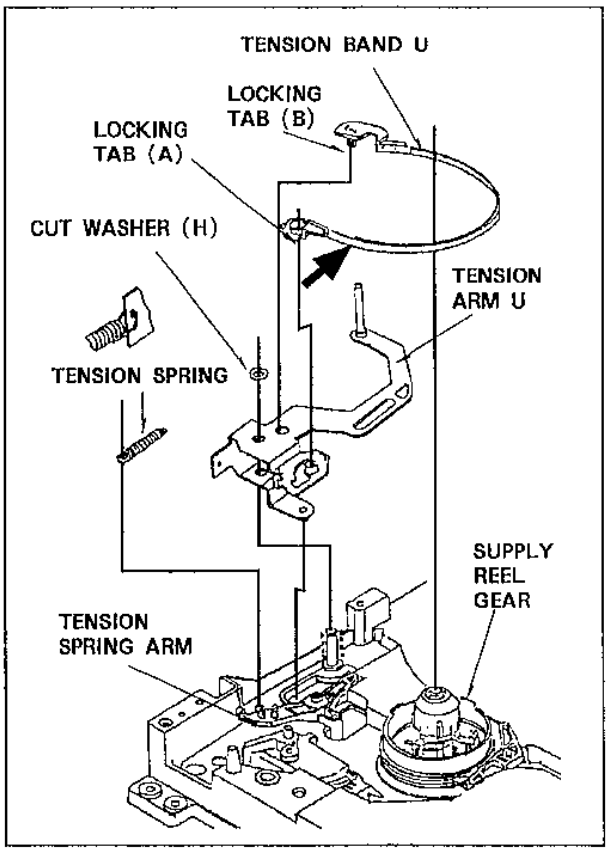


Fig.M10

2-11. Replacement of Loading Motor Unit

1. Unscrew screw (I).
2. Unlock the locking tab (A) from the top of the mechanical chassis.
3. Lift up the Loading Motor Bracket and push it to direction of arrow mark as shown in Fig.M11.
4. When reinstall the Loading Motor Unit, insert the locking hole (B') of Loading Motor Bracket Unit to shaft (B) on the mechanical chassis. Also a hole (C) of the loading Motor Unit must be matched to the shaft (C') as shown in Fig.M11.

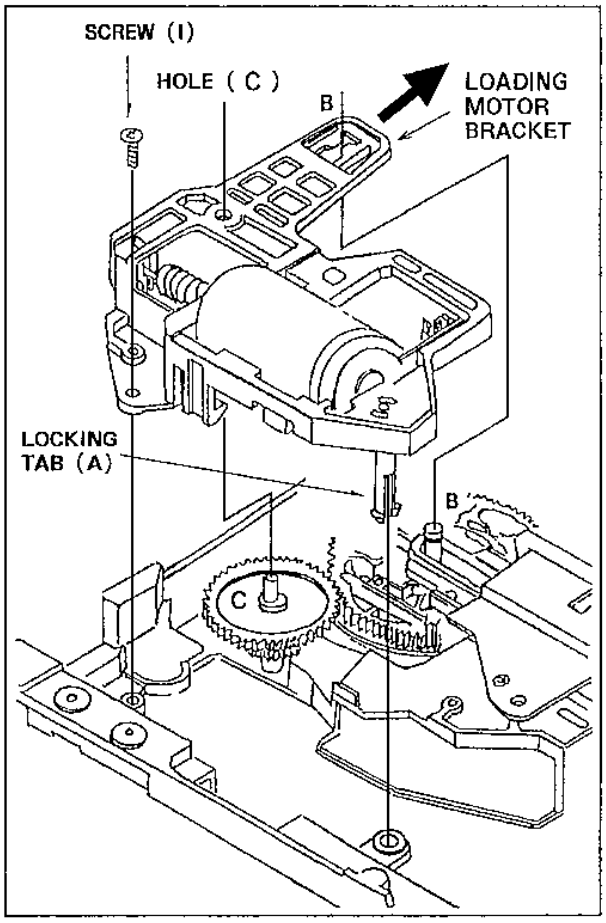


Fig.M11

2-12. Replacement of Cleaner Roller Unit

1. Unlock the locking tab (A) as shown in Fig.M12. and lift it up.
2. The Cleaner Roller Unit can be reinstalled by reversing the removal procedure.

3. Replacement of the Cleaner Rubber Unit.
   Hold the Cleaner Roller Unit and unlock the locking tab (B) then lift it up.

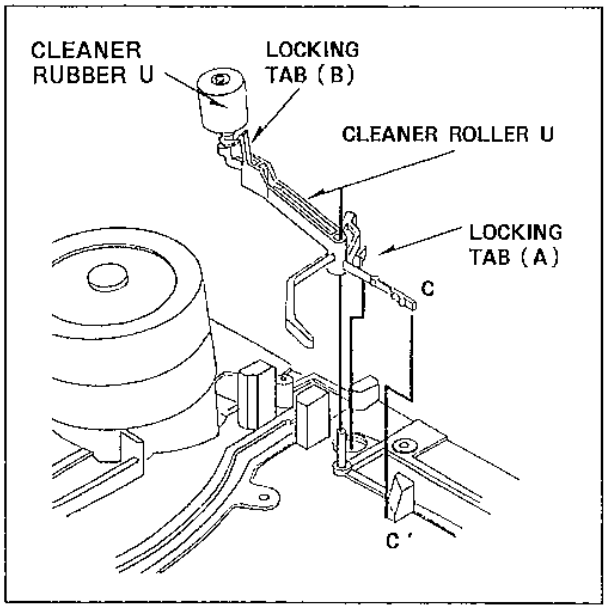


Fig.M12

2-13. Replacement of SS Brake Base Unit and Timing Belt

1. Remove the Timing Belt.
2. Unscrew (J) and (K) then remove SS Brake Base Unit.
3. SS Brake Unit and Timing Belt can be reinstalled by reversing the removal procedure.

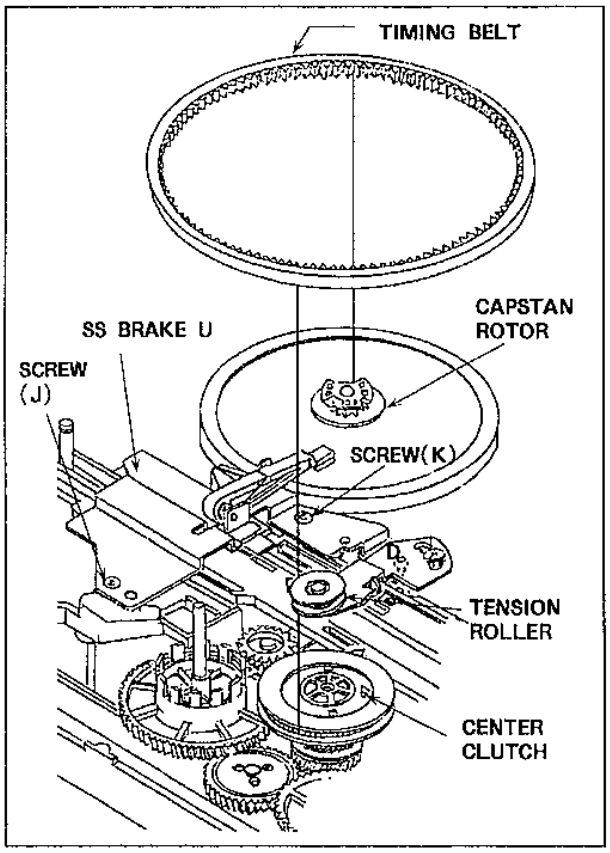


Fig.M13

2-14. Replacement of Supply & Take-up Inclined Base Unit

1. Remove SS Brake Unit, Main Lever Unit and Supply and Take-up Loading Arm Unit refer to SECTION 2. and 3. in this service manual.
2. Remove the Inclined Holder base (A) from back side of mechanism chassis.
3. Remove the Supply and Take-up Inclined Base Units.
4. The both Inclined Base Units can be reinstalled by reversing the removal procedure.

<NOTE>
After reinstall the Inclined Base Unit should be perform Mechanical adjustment.

3-2. FINE ADJUSTMENT of P2 and P3 POSTS
3-5. FINE ADJUSTMENT of A/C HEAD HEIGHT
3-6. HORIZONTAL POSITION ADJUSTMENT of A/C HEAD

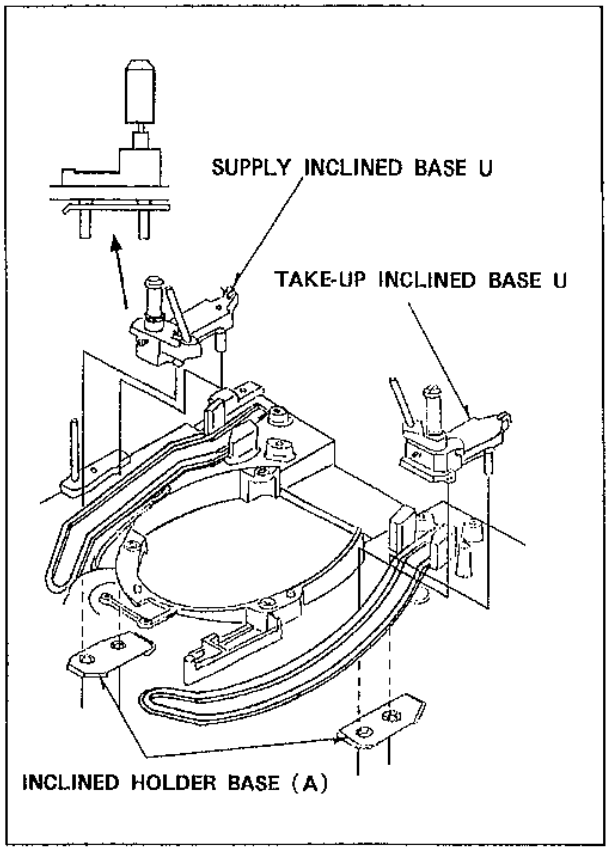


Fig.M14

SECTION 3
MECHANICAL ADJUSTMENT PROCEDURE

3-1. Coarse Adjustment of Tape Guide Post Height

1. Remove the Top Plate and Cassette Holder.
2. Turn the Loading Motor until the unloading completes.
3. Loosen the fixing screw of P2 and P3 Posts.
4. Rotate the P2 and P3 Posts clockwise to the end.
5. Rotate the P2 and P3 Posts twice counter-clockwise as shown in Fig.M15.
6. Install the Cassette Holder and Top Plate.
7. Playback the normal tape and make sure that the edge of not curing at the bottom or top end of the P1,P2,P3 and P4 Posts as shown in Fig.M17.

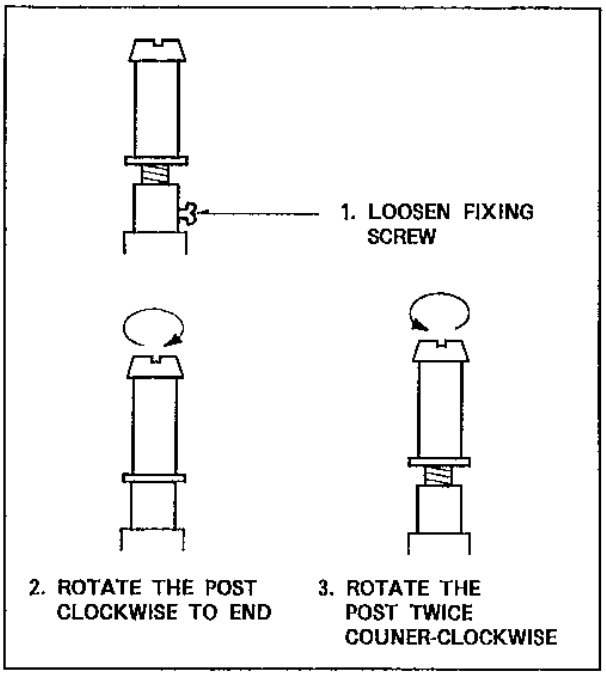


Fig.M15

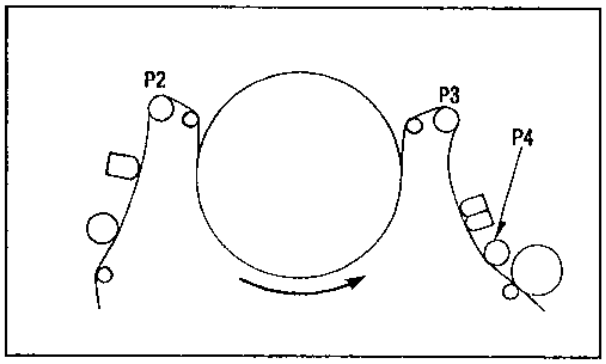


Fig.M16

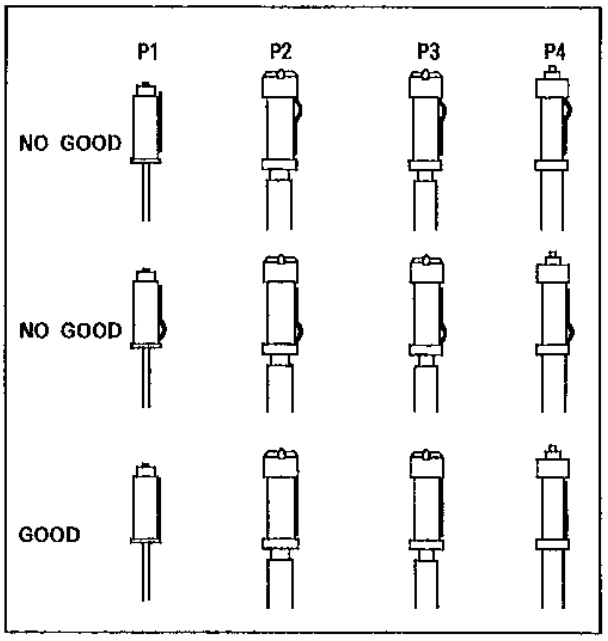


Fig.M17

3-2. Fine Adjustment of P2 and P3 Posts

1. Connect the oscilloscope to the Test Point of the HEAD AMP (Video RF Envelope) and the head switching pulse as a triggering signal.

<NOTE>
TEST POINT please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

2. Playback the 2nd portion of the alignment tape.
3. Press the tracking control button on the Front panel and adjust for maximum Video RF envelope.
4. If the RF envelope appears like example "A" or "B" in Fig.M18 then adjustment of the tape guide post (P3:Exit) is necessary.
5. Adjust the P3 post with the post adjustment screwdriver so that the RF envelope waveform at the exit portion becomes flat as shown in Fig.M18.
6. If the RF envelope appears like example "C" or "D" in Fig.M18 then adjustment of the tape guide post (P2:Entrance) is necessary.
7. Adjust the P2 post with the post adjustment screwdriver so that the RF envelope waveform at the entrance portion becomes flat as shown in Fig.M18.

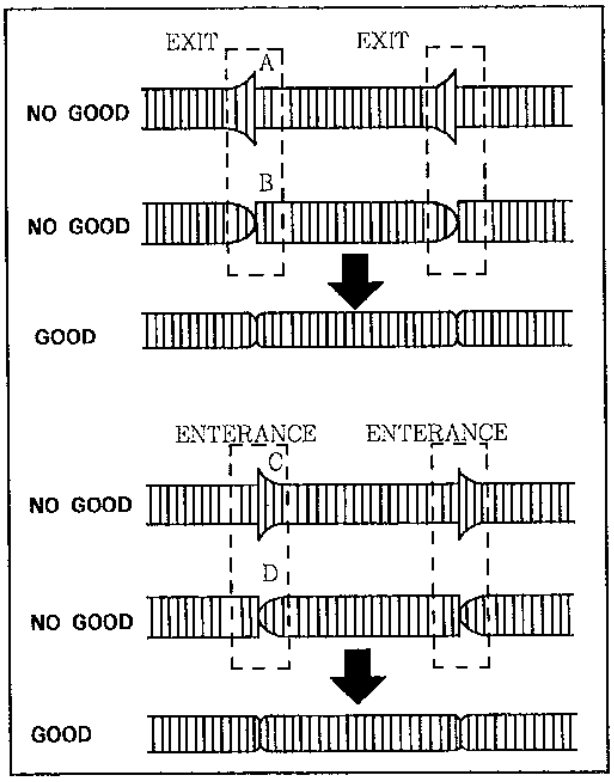


Fig.M18

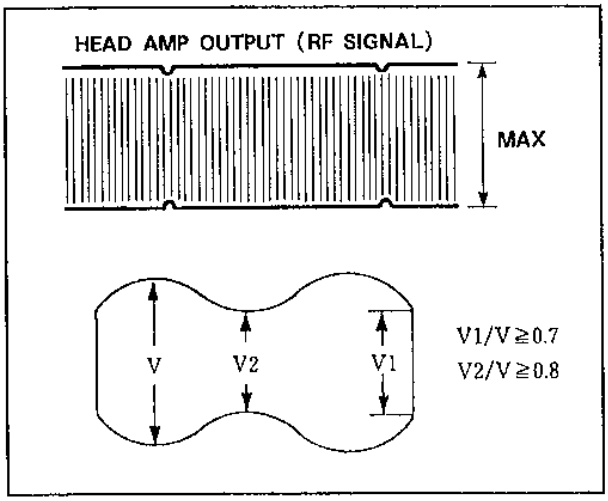


Fig.M19

3-3. Coarse Adjustment of A/C Head Height (1)

<NOTE>
This procedure should be performed only when the A/C Head is replaced.

1. Playback the normal tape.
2. Turn the 3 screws (A)(B)(C) mutually so that lower edge of tape running at lower edge of A/C Head and confirm a space as much as possible to flat between the A/C Head Unit and the A/C Head Base.

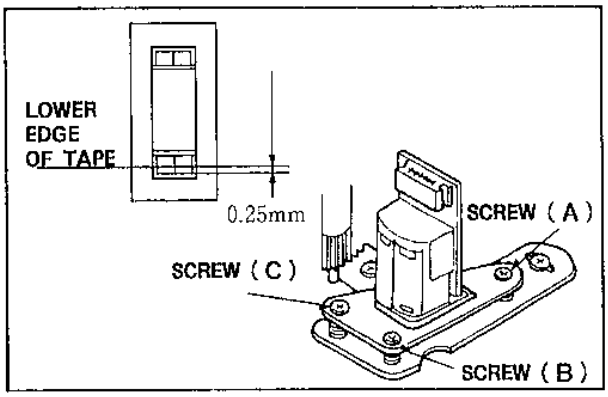


Fig.M20

3-4. Coarse Adjustment of A/C Head Height (2)

1. Playback the normal tape.
2. Rotate the screw (A) as shown in Fig.M20 until the wrinkle appears on the lower edge of tape at P4 Post.
3. Rotate the screw (B) until the wrinkle just disappear on the lower edge of tape at P4 Post.

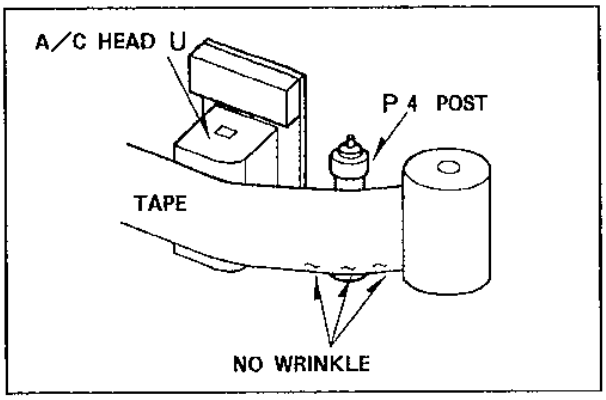


Fig.M21

3-5. Fine Adjustment of A/C Head Height

1. Connect the oscilloscope to the Audio output.
2. Playback the 2nd portion of the alignment tape.
3. Rotate the screw (C) so that audio signal becomes maximum.

<When moving the A/C Head up>

1. Rotate the screw (A) counter-clockwise until the wrinkle appears on the lower edge of tape at P4 Post.
2. Rotate the screw (B) counter-clockwise until just disappears on the lower edge of tape at P4 Post.
3. Rotate the screw (C) counter-clockwise until the audio signal is maximized.

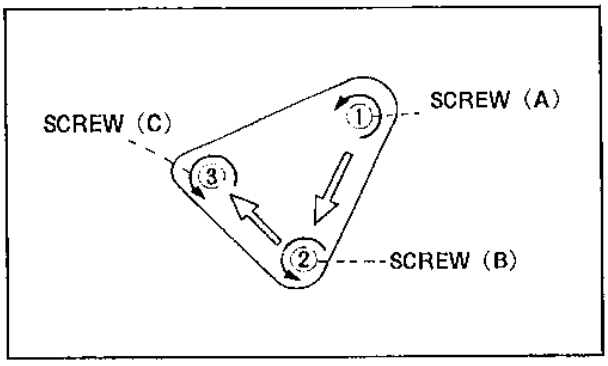


Fig.M22

<When moving the A/C Head down>

1. Rotate the screw (B) clockwise until the wrinkle appears on the lower edge of tape at P4 Post.
2. Rotate the screw (A) clockwise until the wrinkle just disappear on the lower edge of tape at P4 Post.
3. Rotate the screw (C) clockwise until the audio signal is maximized.

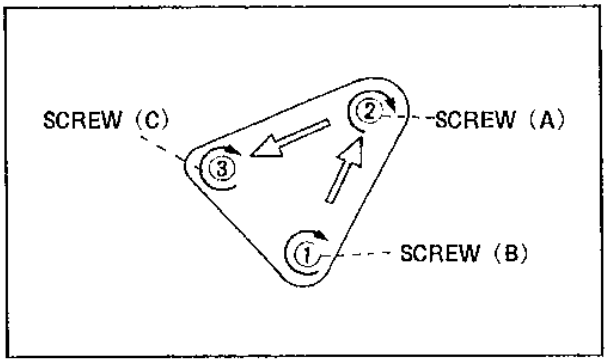


Fig.M23

3-6. Horizontal Position Adjustment of A/C Head.

<NOTE>
TEST POINT and JUMPER WIRE position, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

1. Set the tracking control into the center fix position by connect a jumper wire on the MAIN C.B.A.
2. Connect the oscilloscope to the Audio output, Video RF envelope on the Head Amp test point and head switching pulse on the Head Amp test point as for triggering.
3. Playback the 4th portion of the alignment tape.
4. Loosen the 2 screws (D)(E).
5. Adjust the A/C Head Base (F) so that the phase of audio drop-out and RF video drop-out becomes the same as possible. Fig.M24.
6. Playback the 2nd portion of the alignment tape.
7. Adjust the A/C Head Base (F) until the video RF signal is maximized.
8. Carefully tighten screw (D) with hold the A/C Head Base position with the Fine Adjustment Gear Driver then tighten screw (E).

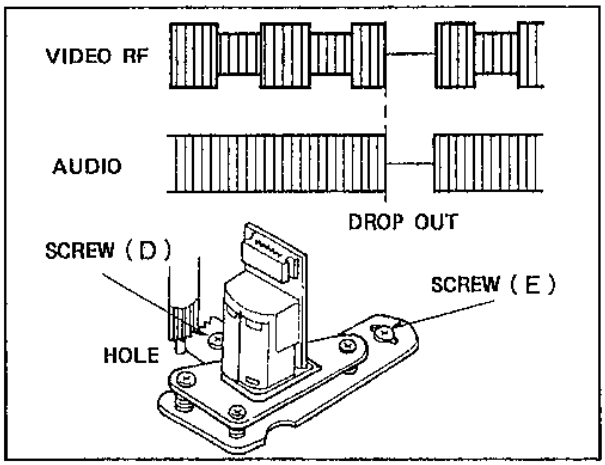


Fig.M24

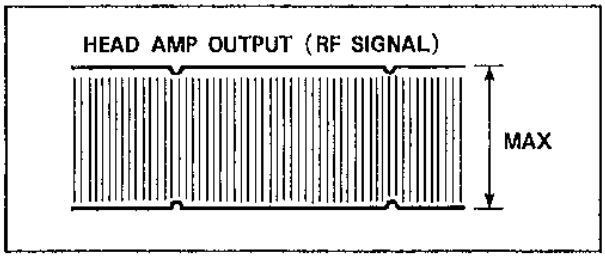


Fig.M25

3-7. Adjustment of Tension Post Position

1. Remove the Top Plate and Cassette Holder.
2. Turn the Loading Motor until the loading completes.
3. Adjust the hole of the Tension Band Unit by Hex wrench so that the left edge of the Impedance Roller and Tension Arm Unit as shown in Fig.M26.

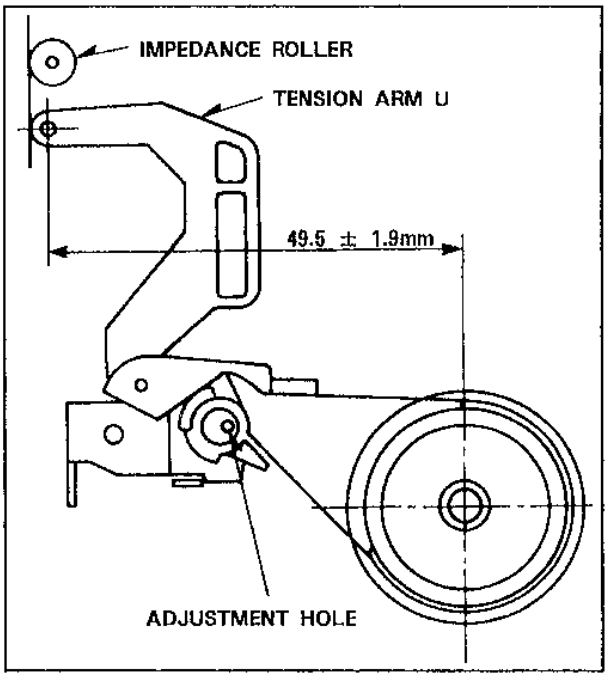


Fig.M26

3-8. Adjustment of Back Tension

1. Playback the cassette tape from the begging of tape and wait until tape movement has stabilized.
2. Insert the back tension meter into the path of the tape and confirm the back tension to be within specification as shown in Fig.M27.
3. If back tension is not in the specification, change the spring notch as shown in Fig.M28.

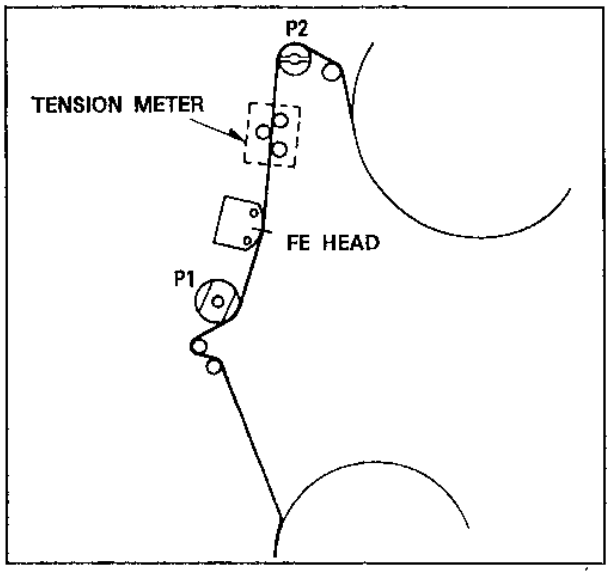


Fig.M27

<NOTE>
Specification of Back Tension, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

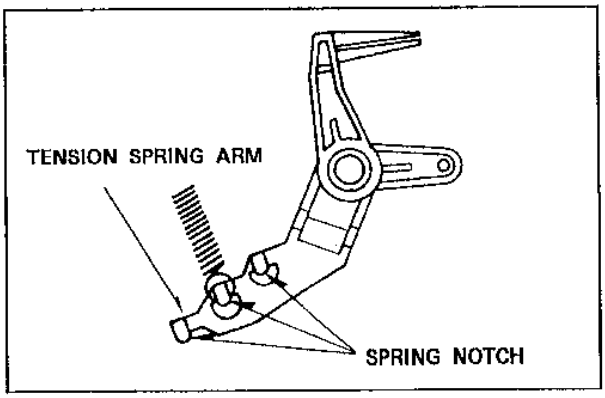


Fig.M28

3-9. Adjustment of Capstan Housing & Stator.

1. Install the Capstan Housing into the mechanical chassis and place the Capstan Stator into position.
2. Loosely tighten 3 screws (G).
3. Insert the Center Fixing Tool (VFK0851) as shown in Fig.M29.
4. Tighten 3 screws (G).
5. Remove the Center Fixing Tool.

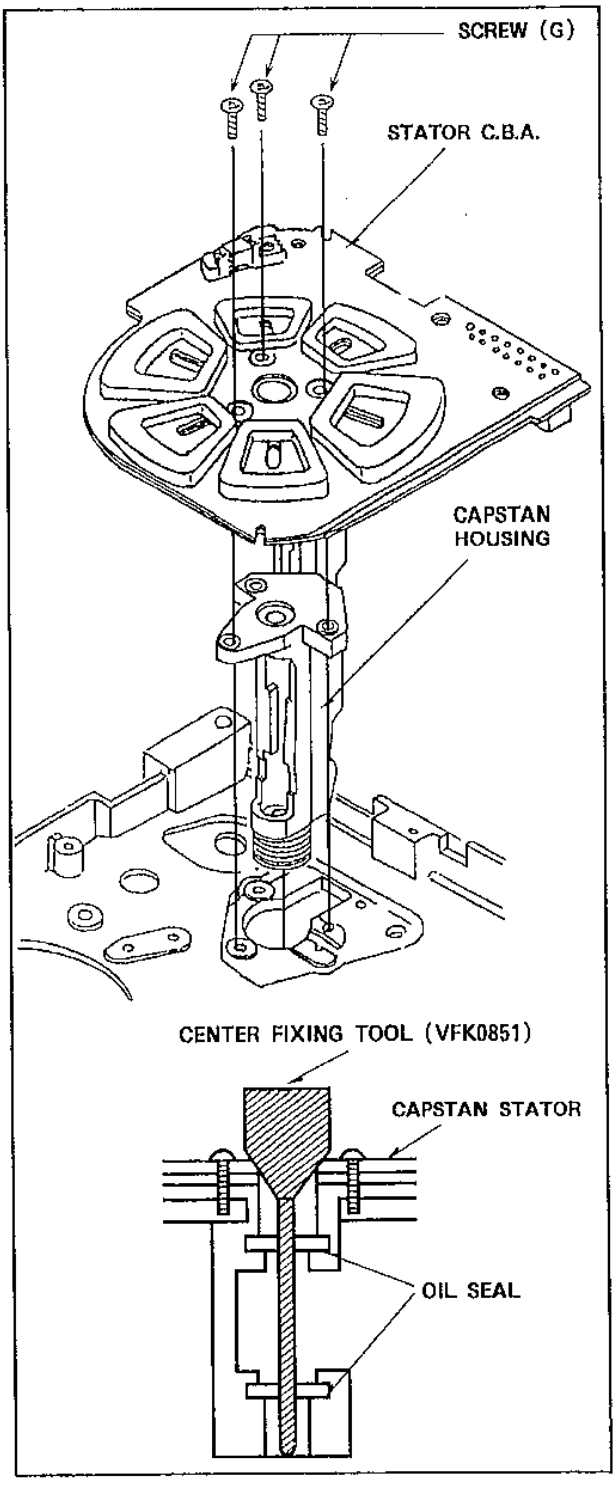


Fig.M29

3-10. Adjustment of Thrust Gap

1. Turn the Thrust Adjustment Screw clockwise to until the Capstan Rotor just separate from the Capstan Stator while rotating the Capstan Rotor by hand.
2. Turn the Thrust Adjustment Screw clockwise to 180 degrees from point at step 1.
3. Set the 2 Oil Seal to edge of the Capstan Housing as show in Fig.M30.

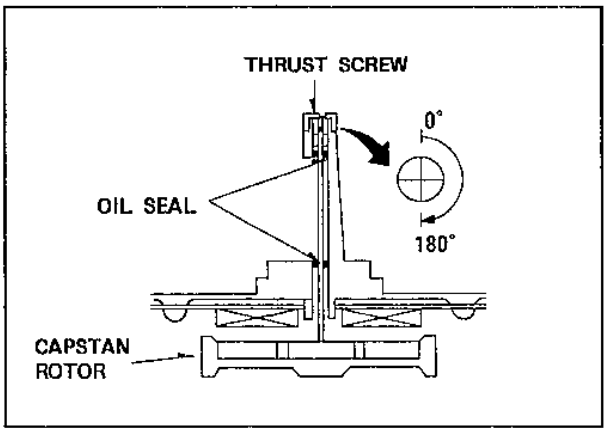


Fig.M30

3-11. Adjustment of FG GAP

1. Loosen screw (H) and set the Fine Adjustment Screw Driver in the hole on the Capstan Stator Unit.
2. Adjust the gap between FG Head and the Capstan Rotor.
3. After adjustment, tighten a screw (H).

<NOTE>
Specification of FG GAP, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

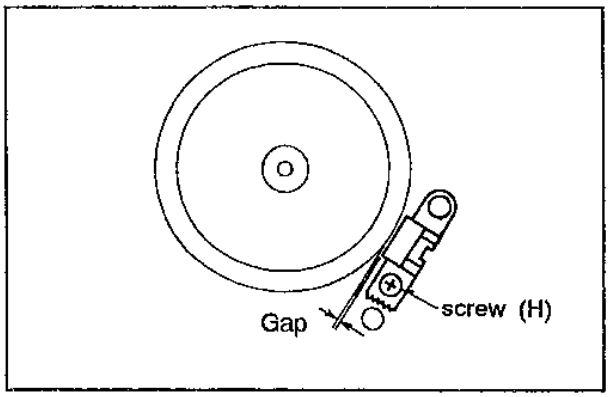


Fig.M31

3-12. Pressing Force Confirmation of the Pressure Roller

1. Playback the end portion of the 120 minutes tape.
2. Set the Fan type tension gauge to point (A) and push to direction indicated by the arrow (B) as shown in Fig.M32.
3. Confirm that reading of tension gauge is in specification at momentary stop the tape running.

<Note>
Specification of PRESSING FORCE, please refer to the MECHANICAL ADJUSTMENT INFORMATION which are shown in service manual for each model.

If the pressing force is not in specification, change the pressure spring.

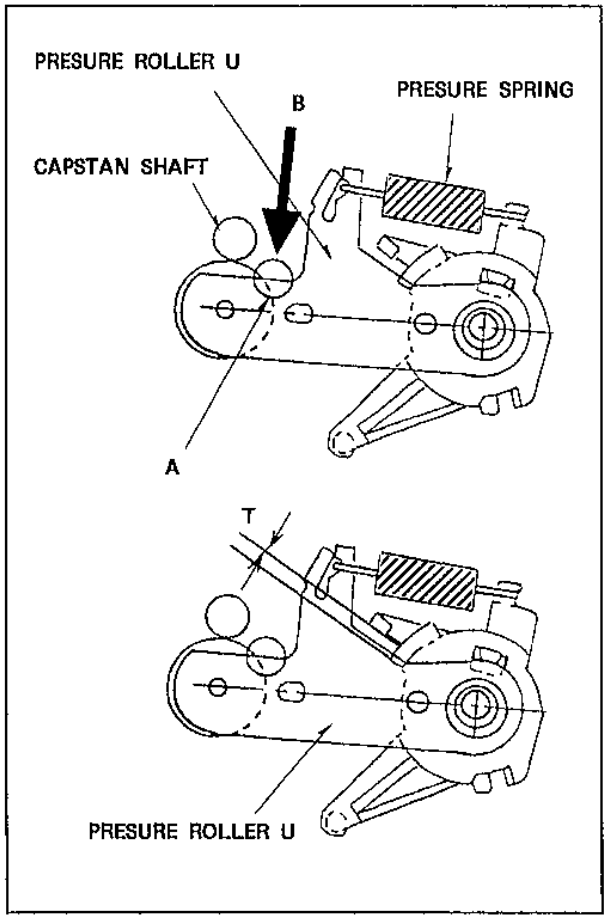


Fig.M32

SECTION 4
ASSEMBLY & PHASE ADJUSTMENT PROCEDURE

4-1. Assembly Procedures of Mechanism

The gear phase alignment is performed in the cassette down position and is crucial for the K-Mechanism to operate correctly.

1. Top view of gear phase alignment marks.
   There are alignment marks on the pinch cam gear and sub cam gear. there is one alignment mark on the carriage gear.

2. Bottom view of gear phase alignment marks.
   There are alignment marks on take-up loading gear and supply loading gear. There is an additional mark on the take-up loading gear that aligns with the mark on the main lever. There are alignment marks on the main cam gear and the sub cam gear. The mode switch gear mark aligns with a notch in the mode switch frame.

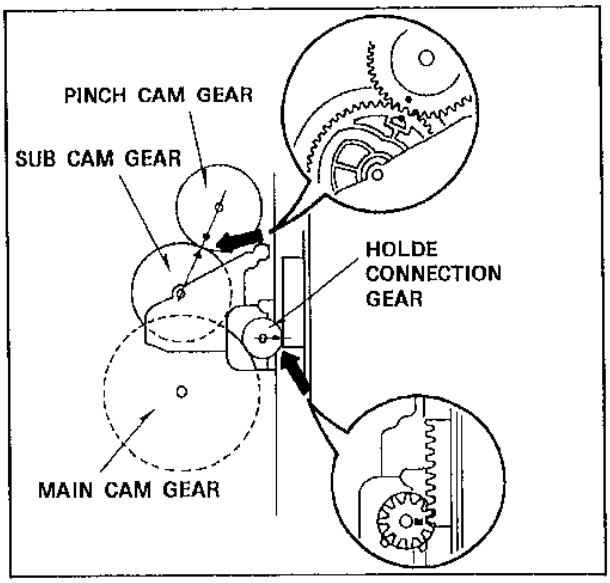


Fig.M33

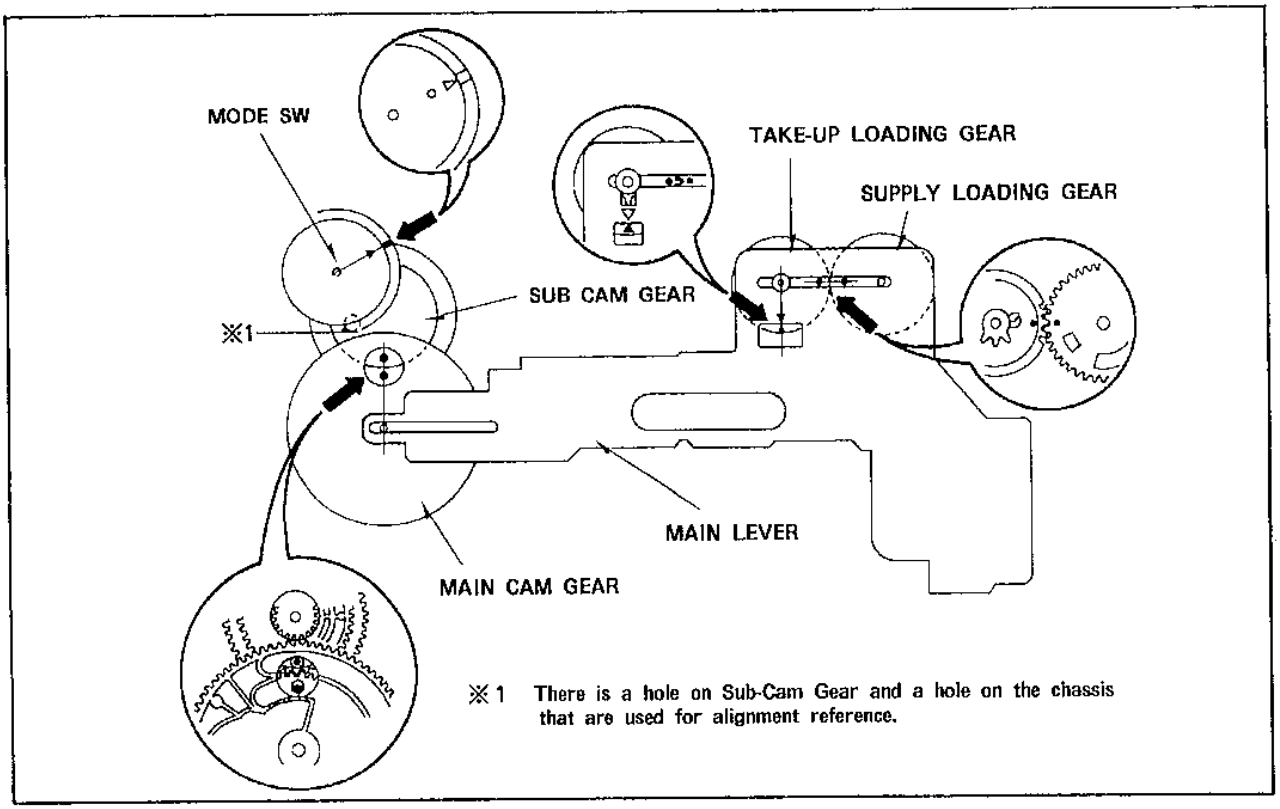

MODE SW
TAKE-UP LOADING GEAR
SUPPLY LOADING GEAR
SUB CAM GEAR
※1
MAIN LEVER
MAIN CAM GEAR
※1 There is a hole on Sub-Cam Gear and a hole on the chassis that are used for alignment reference.

Fig.M34

4-2. Assembly of parts on the Top Chassis

1. Install the Pinch Cam Gear onto shaft (A) and the P5 Arm Unit onto shaft (B).
2. Install the P5 Stopper Base with the cut washer (D) and screw (C).
3. Install the P5 Stopper on the P5 Stopper Base with latch (E).

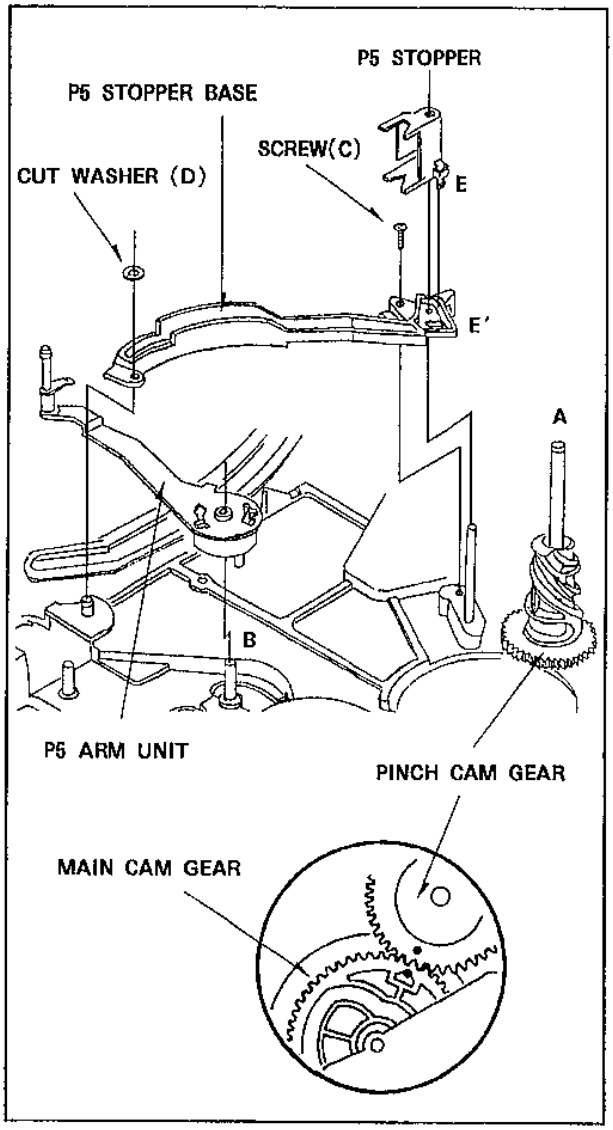


Fig.M35

4-3. Assembly of parts on the Bottom Chassis

1. Install the Idler Arm Unit onto shaft (F).
2. Install the Take-up and Supply Reel Gears onto shaft (G) and (H).
3. Install the Idler Regulator Level onto shaft (I) then install the Direct Lever.
4. Install the Center Clutch onto shaft (F) with the cut washer.

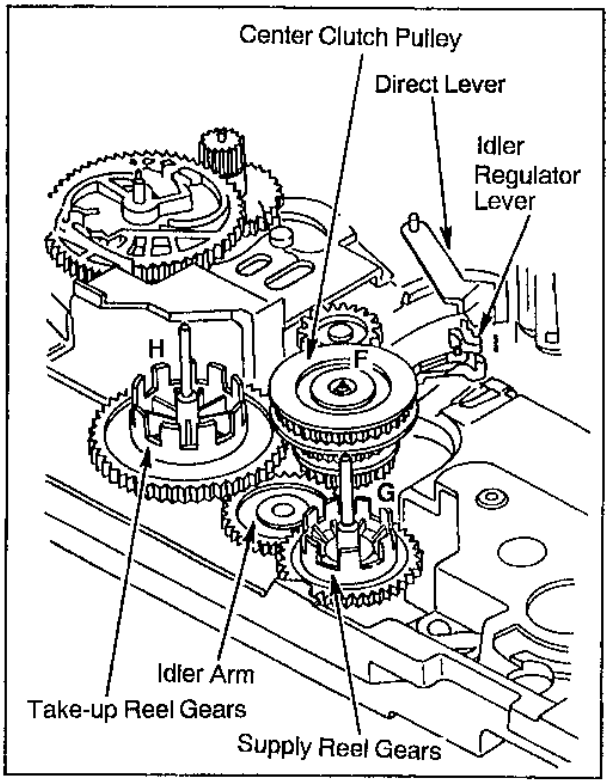


Fig.M36

4-4. Assembly of Main Cam Gear and Sub Cam Gear

1. Install the Sub Cam Gear on to shaft (J) so that the chassis hole aligns with hole in the Sub Cam Gear.
2. Rotate the Holder Connection Gear to position of arrow mark as shown in Fig.M37.
3. Install the Main Cam Gear onto shaft (K) so that the hole of the Main Cam Gear aligns with the hole in the Sub Cam Gear. Also insert the boss of the Take-up Tension Regulator Arm into the slot on the Main Cam Gear.

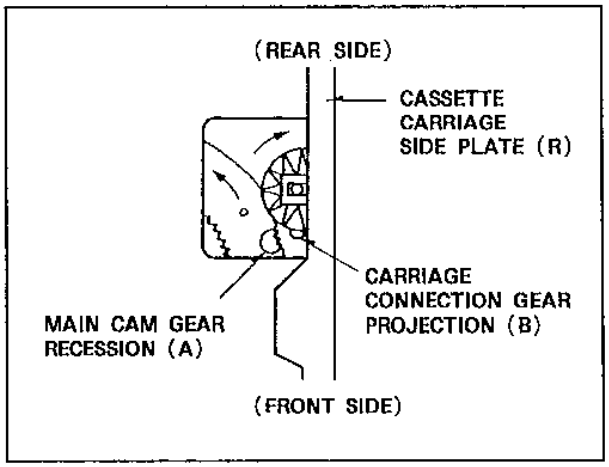


Fig.M37

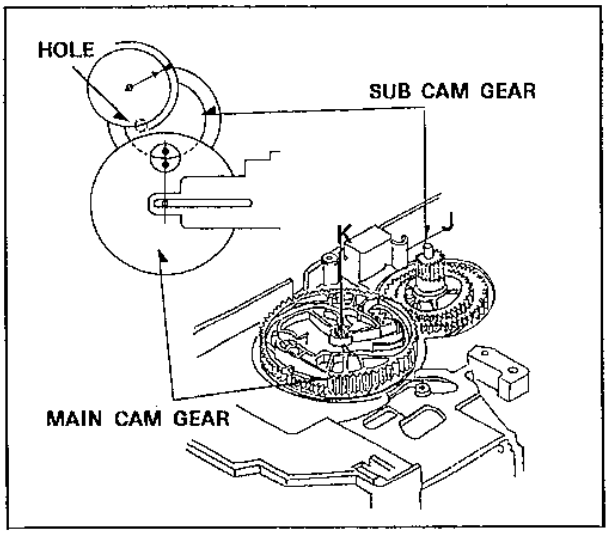


Fig.M38

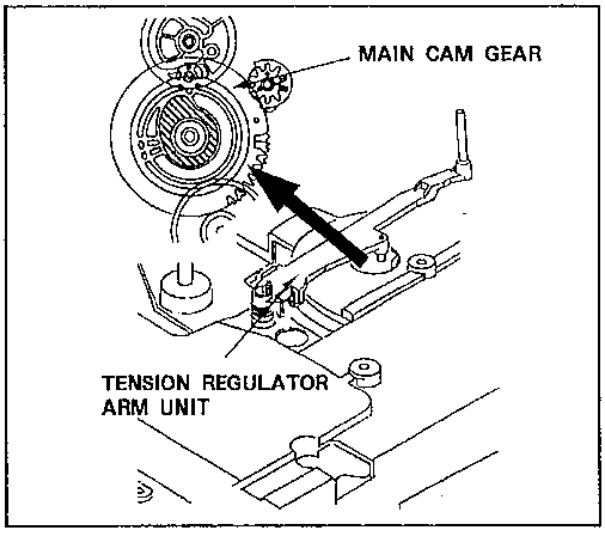


Fig.M39

4-5. Assembly of Mode Switch

1. Align a triangle mark on the Mode Switch Gear with the notch on the Mode Switch frame.
2. Confirm the Main and Sub Cam Gears aligned properly then install the Mode Switch with screw (L).

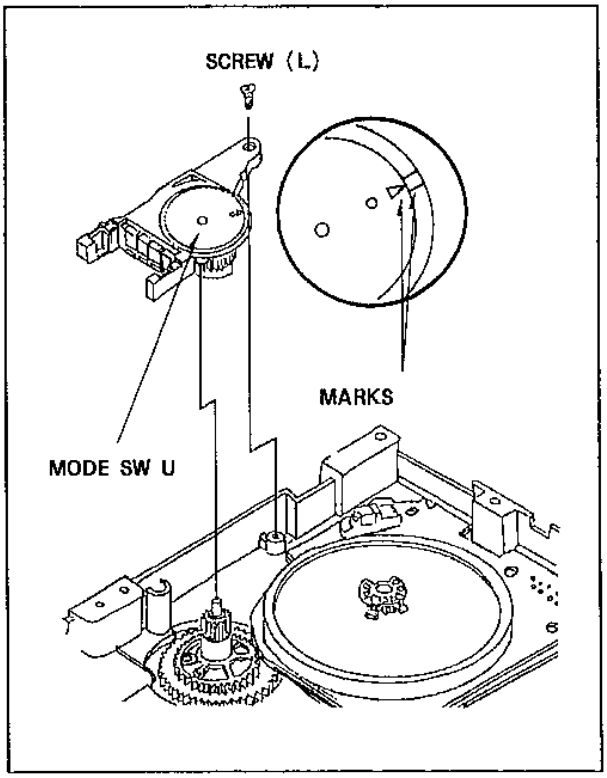


Fig.M40

4-6. Assembly of Take-up and Supply Loading Gears.

1. Install the Supply Loading Gear onto the shaft (S).
2. Install the Take-up Loading Gear onto the shaft (T) so that hole on the Take-up Loading Gear align with the hole on the Supply Loading Gear.
3. Install the Supply Loading Arm onto shaft of the Supply Inclined Base with washer.
4. Insert the Take-up Loading Arm onto shaft of the Take-up Inclined Base with washer.

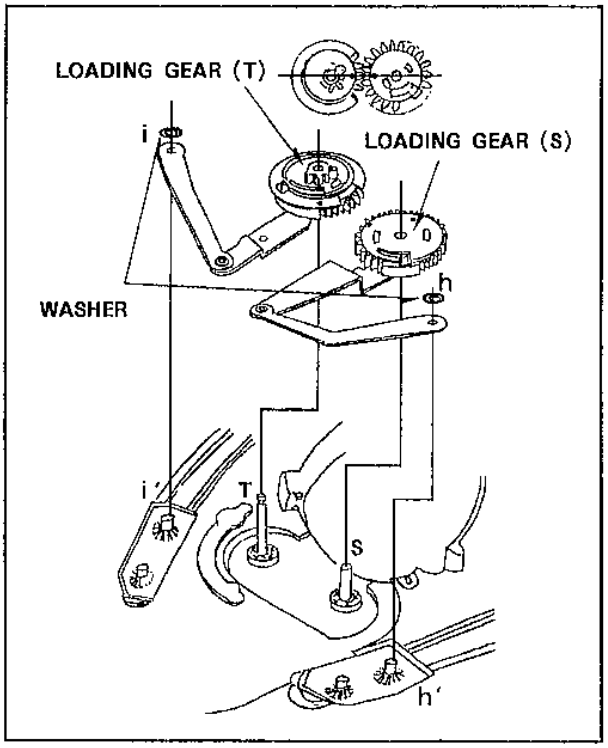


Fig.M41

4-7. Assembly of Main Lever

1. Install the Main Lever Arm checking that the boss of arms and shafts are in correct position and mark on the Main Lever Arm is aligned with mark on the Take-up Loading Gear.
2. Insert the 2 cut washer as shown in Fig.M42.

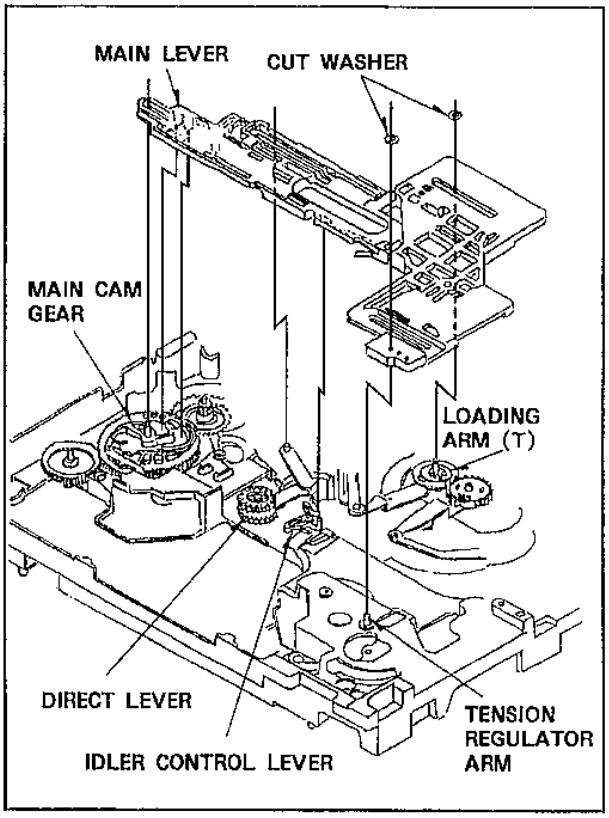


Fig.M42

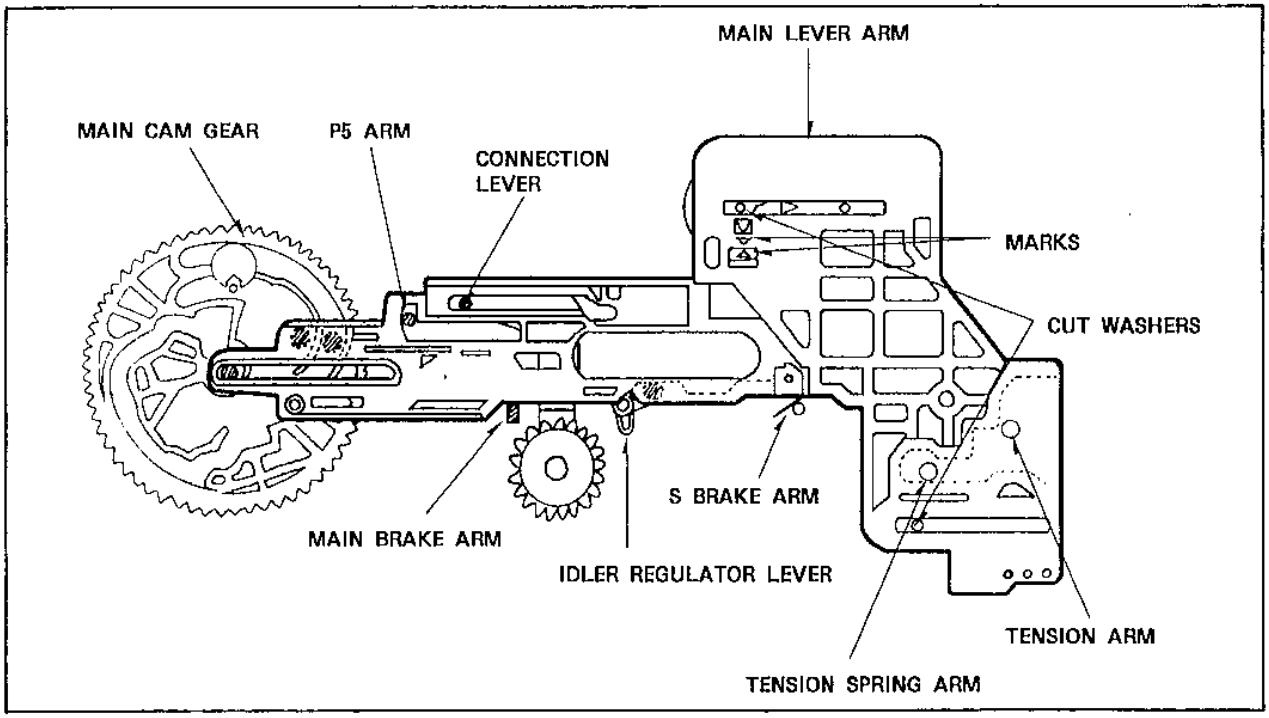


Fig.M43

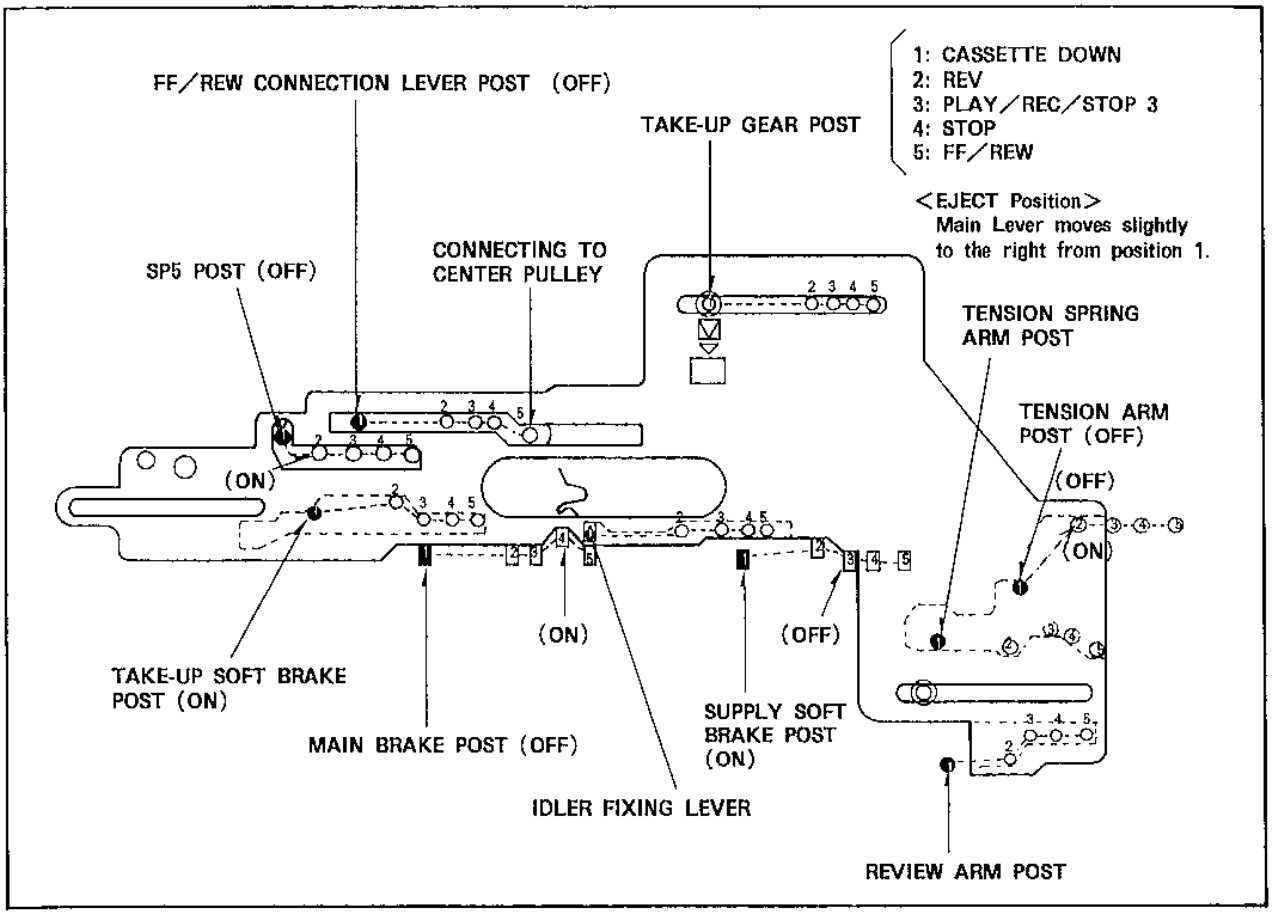


Fig.M44

4-8. Reinstall of the Cassette Compartment

1. Push the locking tabs to direction as shown in Fig.M45 and remove the Top Plate.

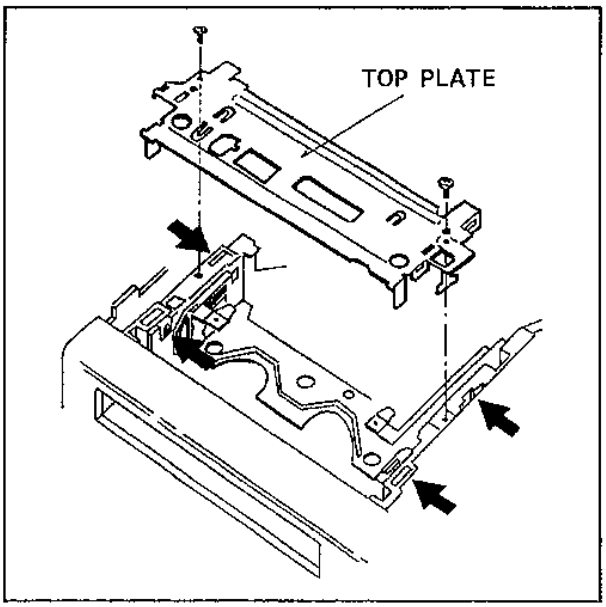


Fig.M45

2. Lift up the Cassette Holder Unit as shown in Fig.M46.

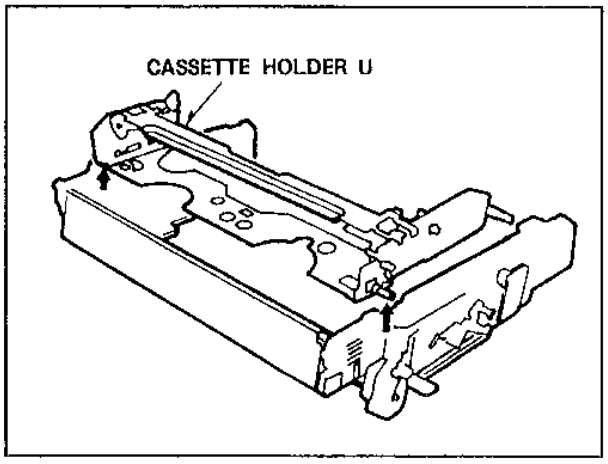


Fig.M46

3. Press the Wiper Arm to direction indicated by arrow mark so that the Wiper Arm comes to cassette down position completely as shown in Fig.M48. Confirm a triangle mark on the Wiper Arm aligns with the mark on the Rack (B) Unit.

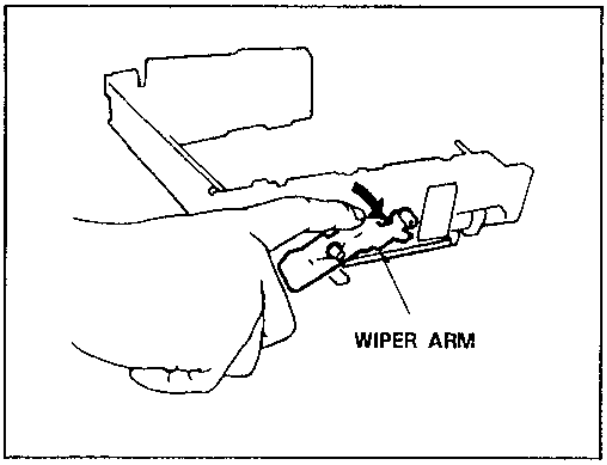


Fig.M47

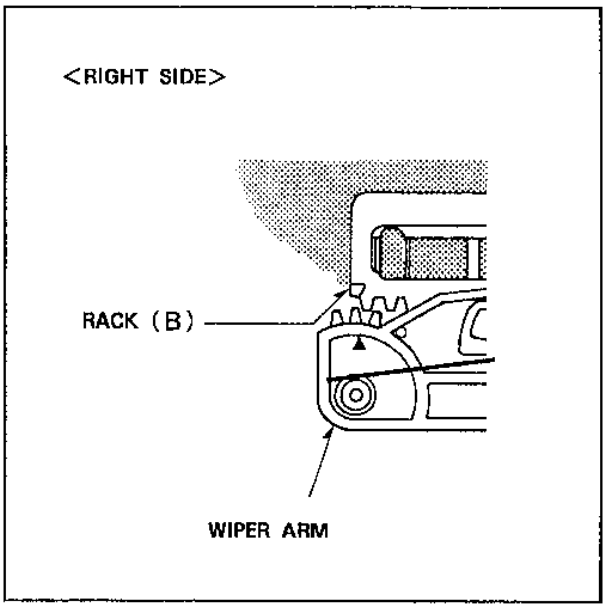


Fig.M48

4. Install the cassette compartment (without cassette holder) to the mechanical chassis so that mark on the Holder Connection Gear should line up with first tooth of the Rack Gear as shown in Fig.M49.

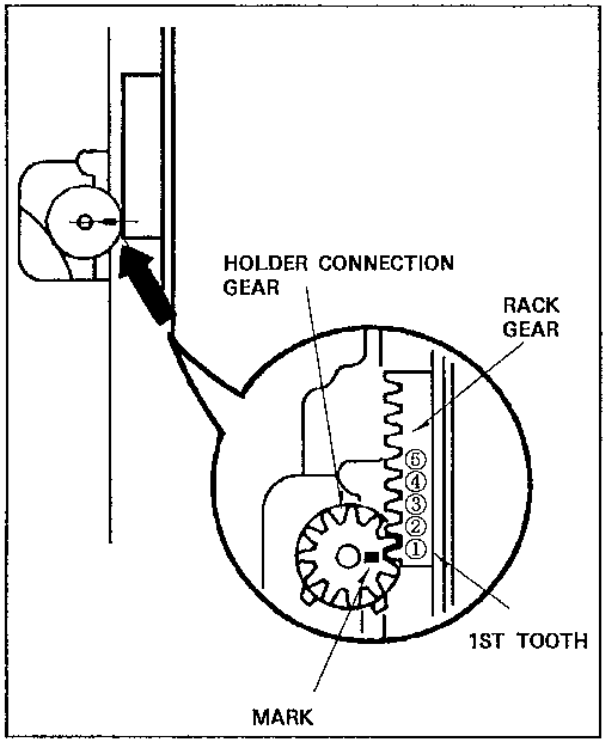


Fig.M49

5. Tighten 4 screws as shown in Fig.M50.
6. Manually move the loading mechanism toward the EJECT position by turn the Loading Motor and stop just before completion, so that the Wiper Arm straight up.
7. Install the Cassette Holder Unit in the Cassette Compartment Base as shown in Fig.M51.
8. Install the Top Plate on the Cassette Compartment Base.
9. Manually confirm that front loading and main loading run smoothly.

<NOTE>
For proper front loading, the guide pin on the opener lever should follow the upper track of the right side panel as shown in Fig.M52.

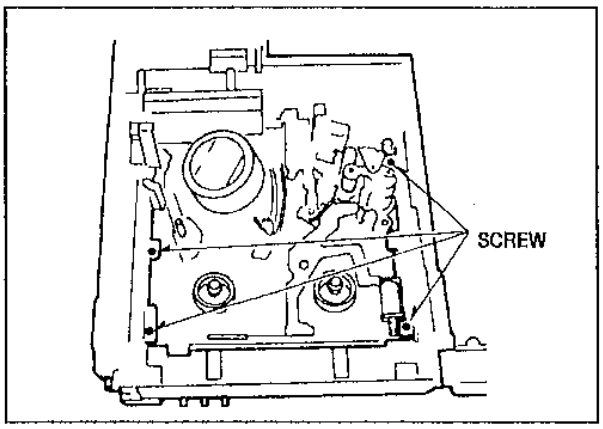


Fig.M50

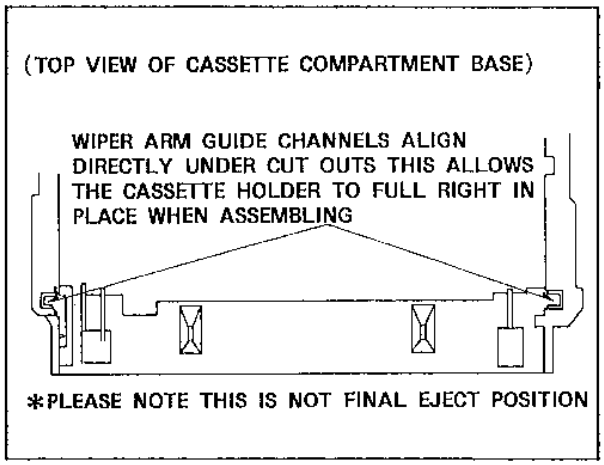

(TOP VIEW OF CASSETTE COMPARTMENT BASE)
WIPER ARM GUIDE CHANNELS ALIGN DIRECTLY UNDER CUT OUTS THIS ALLOWS THE CASSETTE HOLDER TO FULL RIGHT IN PLACE WHEN ASSEMBLING
*PLEASE NOTE THIS IS NOT FINAL EJECT POSITION

Fig.M51

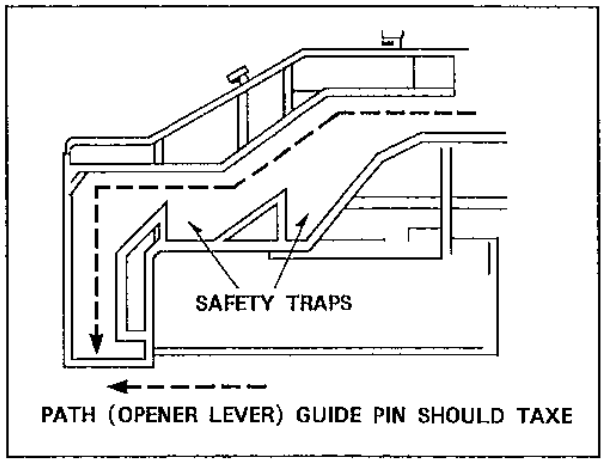


Fig.M52